UNITED STATES OF AMERICA
POSTAL RATE COMMISSION

Before:

Chairman Gleiman, Vice Chairman Omas,
Commissioners Covington, Goldway, and LeBlanc

Postal Rate and Fee Changes, 2000   Docket No. R2000-1

APPENDICES TO OPINION

AND

RECOMMENDED DECISION

VOLUME 2

Washington, DC 20268-0001
November 13, 2000

Corrected version containing errata filed November 30, 2000

TECHNICAL APPENDICES

PARTICIPANTS AND COUNSEL

ADVO, INC. *(Advo)*
    John M. Burzio
    Thomas W. McLaughlin

AGRICULTURAL PUBLISHERS ASSOCIATION *(APA)**
    Charles L. Pace

ALLIANCE OF INDEPENDENT STORE OWNERS AND PROFESSIONALS *(AISOP)**
    Donna E. Hanbery

ALLIANCE OF NONPROFIT MAILERS *(ANM)*
    David M. Levy
    Christopher T. Shenk

AMAZON.COM, INC. *(Amazon)**
    William J. Olson
    John S. Miles

AMERICAN BANKERS ASSOCIATION *(ABA)*
    Irving D. Warden

AMERICAN BUSINESS MEDIA *(ABM)*
formerly participating as AMERICAN BUSINESS PRESS *(ABP)*
    David R. Straus
    Mercia E. Arnold

AMERICAN LIBRARY ASSOCIATION *(ALA)*
    David M. Levy
    Christopher T. Shenk

AMERICAN POSTAL WORKERS UNION, AFL-CIO *(APWU)*
    Susan L. Catler

---

*   Limited Participator

ASSOCIATION FOR POSTAL COMMERCE *(PostCom)*
    Ian Volner
    Frank Wiggins
    Heather McDowell

ASSOCIATION OF ALTERNATE POSTAL SYSTEMS *(AAPS)**
    Bonnie S. Blair
    David R. Straus

ASSOCIATION OF AMERICAN PUBLISHERS *(AAP)*
    Mark L. Pelesh
    John R. Przypyszny

ASSOCIATION OF PRIORITY MAIL USERS, INC. *(APMU)*
    William J. Olson
    John S. Miles

BANTA CORPORATION *(Banta)**
    Addis Hilliker

JODY BERENBLATT *(Berenblatt)**
    Jody Berenblatt

BROWN PRINTING COMPANY *(Brown)**
    Russell A. Shores

DOUGLAS F. CARLSON *(Carlson)**
    Douglas F. Carlson

CLASSROOM PUBLISHERS ASSOCIATION *(CPA)**
    Stephen F. Owen, Jr.

COALITION OF RELIGIOUS PRESS ASSOCIATIONS *(CRPA)*
    Stephen M. Feldman

CONDÉ NAST PUBLICATIONS, INC. *(Condé Nast)**
    Howard Schwartz

CONTINUITY SHIPPERS ASSOCIATION *(CSA)*
    Aaron Horowitz

COX SAMPLING *(Cox Sampling)*
    William J. Olson
    John S. Miles

DIRECT MARKETING ASSOCIATION, INC. *(DMA)*
    Dana T. Ackerly II
    Gerard N. Magliocca

DISTRICT PHOTO, INC. *(District Photo)*
    William J. Olson
    John S. Miles

R.R. DONNELLY & SONS COMPANY *(Donnelly)**
    Ian D. Volner
    Heather McDowell

DOW JONES & COMPANY, INC. *(Dow Jones)*
    Michael F. McBride
    Bruce W. Neely
    John W. Lawrence

ELECTRONIC RETAILING ASSOCIATION *(ERA)**
    Jeffrey D. Knowles
    Heather L. McDowell

E-STAMP CORPORATION *(E-Stamp)*
    Timothy J. May

EXPERIAN *(Experian)**
    Joe Lubenow

FEDEX EXPRESS CORPORATION *(FedEx)**
    James I. Campbell Jr.

FLORIDA GIFT FRUIT SHIPPERS ASSOCIATION *(FGFSA)*
    Maxwell W. Wells, Jr.

GREETING CARD ASSOCIATION *(GCA)*
    Alan R. Swendiman

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*   Limited Participator

HALLMARK CARDS, INC. *(Hallmark)**
    David F. Stover
    Sheldon Bierman

THE HEARST CORPORATION *(Hearst)**
    Thomas A. Bisdale

INLAND CAPITAL CORPORATION *(Inland Capital)**
    Troy Naed

KEYSPAN CORPORATION D\B\A KEYSPAN ENERGY *(KEYSPAN)*
    Michael W. Hall

KNIGHT-RIDDER, INC. *(Knight-Ridder)**
    Christopher D. Kent

LIFETIME ADDRESSING, INC. *(Lifetime Addressing)**
    Camille Q. Bradford

THE LONG ISLAND POWER AUTHORITY *(Long Island Power)**
    Stanley B. Klimberg

MAGAZINE PUBLISHERS OF AMERICA, INC. *(MPA)*
    James R. Cregan
    J. Pierce Myers
    Anne R. Noble

MAIL ADVERTISING SERVICE ASSOCIATION INTERNATIONAL *(MASA)*
    Graeme W. Bush

MAIL ORDER ASSOCIATION OF AMERICA *(MOAA)*
    David C. Todd

MAJOR MAILERS ASSOCIATION *(MMA)*
    Michael W. Hall

THE MCCLATCHY COMPANY *(McClatchy)**
    William B. Baker

THE MCGRAW-HILL COMPANIES, INC. *(McGraw-Hill)*
    Timothy W. Bergin

MEREDITH CORPORATION *(Meredith)**
    John Wells King

PETER J. MOORE & ASSOCIATES, L.L.C. *(Moore)**
    Peter J. Moore

MYSTIC COLOR LAB *(Mystic)*
    William J. Olson
    John S. Miles

NATIONAL ASSOCIATION OF LETTER CARRIERS, AFL-CIO *(NALC)*
    Keith E. Secular
    Bruce H. Simon

NATIONAL ASSOCIATION OF PRESORT MAILERS *(NAPM)*
    Henry A. Hart

NATIONAL FEDERATION OF NONPROFITS
    Lee M. Cassidy

NATIONAL NEWSPAPER ASSOCIATION *(NNA)*
    Senny Boone
    Tonda F. Rush

NATIONAL POSTAL MAIL HANDLERS UNION *(NPMHU)**
    Bruce R. Lerner

NEWSPAPER ASSOCIATION OF AMERICA *(NAA)*
    William B. Baker
    E. Joseph Knoll III
    Isaac R. Campbell

NIAGARA TELEPHONE COMPANY *(Niagara)*
    Timothy E. Welch

OFFICE OF THE CONSUMER ADVOCATE *(OCA)*
    Ted P. Gerarden
    Emmitt Rand Costich
    Shelley S. Dreifuss
    Kenneth E. Richardson

---

*   Limited Participator

PARCEL SHIPPERS ASSOCIATION *(PSA)*
    Timothy J. May

J.C. PENNEY COMPANY, INC. *(J.C. Penney)**
    Alan S. Langer

PERIODICAL PUBLICATIONS ASSOCIATION, INC. *(PPA)**
    Kimberly Scott

PITNEY BOWES, INC. *(Pitney Bowes)*
    Frank Wiggins
    Ian D. Volner

DAVID B. POPKIN *(Popkin)**
    David B. Popkin

PROFESSIONAL FOOTBALL PUBLICATION ASSOCIATION, INC. *(PFPA)*
    Tonda F. Rush
    Mark E. Hunt

QUEBECOR WORLD (USA) INC. *(QUEBECOR WORLD)**
    Daniel Scapin

READER'S DIGEST ASSOCIATION, INC. *(RDA)**
    Michael A. Brizel

RECORDING INDUSTRY ASSOCIATION OF AMERICA, INC. *(RIAA)*
    Ian D. Volner
    Frank Wiggins
    Heather McDowell

SATURATION MAIL COALITION *(SMC)*
    John M. Burzio
    Thomas W. McLaughlin

SMARTMAIL, INC. *(SmartMail)*
    Graeme W. Bush

STAMPS.COM *(Stamps.com)*
    David P. Hendel

THE NATION, L.P. *(The Nation)*
    Stephen M. Feldman

TIME WARNER, INC. *(Time Warner)*
    John M. Burzio
    Timothy L. Keegan

U.S. NEWS & WORLD REPORT *(U.S. News)**
    Michael Armstrong

UNITED PARCEL SERVICE *(UPS)*
    John E. McKeever
    William J. Pinamont
    Phillip E. Wilson, Jr.

UNITED STATES POSTAL SERVICE *(Postal Service)*
    Daniel J. Foucheaux, Jr.
    Anthony F. Alverno
    Richard T. Cooper
    Susan M. Duchek
    Kenneth N. Hollies
    Eric P. Koetting
    Joseph F. Moore
    Scott L. Reiter
    David H. Rubin
    Michael T. Tidwell

VAL-PAK DEALERS' ASSOCIATION, INC. *(Val-Pak)*
    William J. Olson
    John S. Miles

VAL-PAK DIRECT MARKETING SYSTEMS, INC. *(Val-Pak)*
    William J. Olson
    John S. Miles

WATCHTOWER BIBLE AND TRACT SOCIETY OF NEW YORK, INC. *(Watchtower)**
    Phillip Brumley

WILLMAR ASSOCIATES INTERNATIONAL, INC. *(Willmar)**
    Robert C. Williamson

CAROL WRIGHT PROMOTIONS, INC. *(Carol Wright)*
    William J. Olson
    John S. Miles

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*   Limited Participator

PARTICIPANTS

ADVO, INC. *(Advo)* – Advo provides bulk mailing services and advertising programs, including shared mail programs, to advertisers and retailers. Advo has an interest in matters affecting bulk mail classifications and rates.

AGRICULTURAL PUBLISHERS ASSOCIATION *(APA)* – APA is a nonprofit corporation with 15 member companies that publish 95 state and regional agricultural magazines. APA member publishers rely on Periodicals as their principal means of distributing publications. They also use First-Class Mail for business correspondence, billing, and statements of account; Standard A Mail for promotion and subscription sales; and Standard B Mail for distribution of books and educational materials.

ALLIANCE OF INDEPENDENT STORE OWNERS AND PROFESSIONALS *(AISOP)* – AISOP represents approximately 3,500 small business retailers, service providers, professionals, and self-employed persons who rely on the mail to reach customers in their trade areas. AISOP also represents the mailers and publishers who serve its members. Together with other trade associations, AISOP monitors issues of concern to small business advertisers, in particular, postal rates and regulations.

ALLIANCE OF NONPROFIT MAILERS *(ANM)* – ANM is a nonprofit corporation which represents the interests of nonprofit organizations in postal matters. ANM members include many of the nation's largest charitable, religious, educational, scientific, and other nonprofit organizations, as well as many smaller nonprofit organizations and umbrella groups. ANM members rely heavily on nonprofit Standard A Mail and nonprofit Periodicals.

AMAZON.COM, INC. *(Amazon)* – Amazon is a leading Internet-based retailer, offering more than 18 million unique items in categories including books, music, video, toys, electronics, home improvement products, and software. The company makes use of several classes of mail, including Priority Mail, destination-entered Standard B Mail, and First-Class Mail.

AMERICAN BANKERS ASSOCIATION *(ABA)* – ABA is a nonprofit membership organization composed of banks located in all 50 states and the District of Columbia. The banking industry is one of the largest users of First-Class Mail.

AMERICAN BUSINESS MEDIA *(ABM)* – ABM, formerly participating as American Business Press (ABP), is an association of the nation's leading publishers of business, professional, and medical periodicals, that are mailed almost exclusively at regular

Periodicals rates. ABM members publish more than 1,000 periodicals and pay roughly $200 million in periodical postage alone, in addition to expenditures for other classes of mail.

AMERICAN LIBRARY ASSOCIATION *(ALA)* – ALA is a national association of libraries with members who are direct or indirect users of most classes of mail and are particularly heavy users of the library rate subclass of Standard Mail.

AMERICAN POSTAL WORKERS UNION, AFL-CIO *(APWU)* – APWU, an affiliate of the AFL-CIO, is the exclusive collective bargaining representative of postal employees nationwide in the clerk, maintenance, and motor vehicle service crafts. APWU is also the National Labor Relations Board certified bargaining representative of Postal employees in several non-mail processing units. APWU members are concerned about changes in postal operations that may have a significant effect on their employment.

ASSOCIATION FOR POSTAL COMMERCE *(PostCom)* – PostCom, formerly the Advertising Mail Marketing Association, has members that include the nation's largest advertising mailers, printers, and shippers, encompassing both commercial and nonprofit entities. PostCom's members rely heavily on all mail classes.

ASSOCIATION OF ALTERNATIVE POSTAL SYSTEMS *(AAPS)* – AAPS is a trade association whose members deliver saturation mail.   AAPS members compete with the Postal Service for the distribution of pieces that would otherwise qualify as Standard A Mail.

ASSOCIATION OF AMERICAN PUBLISHERS *(AAP)* – AAP is the principal representative of the book and journal publishing industry in the United States. Its members include large and small publishing houses, as well as university, religious, and nonprofit publishers. AAP's members are extensive users of all classes of mail, particularly Parcel Post, Bound Printed Matter, Special Standard, and Library Rate.

ASSOCIATION OF PRIORITY MAIL USERS, INC. *(APMU)* – APMU is a nonprofit association of business firms that are substantial users of postal services, particularly Priority Mail. Their use of postal services is significant both in terms of quantity of items mailed and amount of postage paid.

BANTA CORPORATION *(Banta)* – Banta, a technologically-advanced market leader in printing and digital imaging, serves publishers of educational and general books, special-interest magazines, consumer and business catalogs, and direct marketing materials. One of the largest mailers in the nation, Banta prepares First-Class, Priority, Periodicals, Standard A, and Standard B Mail. In addition to printing and digital imaging, Banta offers multimedia and software packages, interactive media, and online services.

JODY BERENBLATT *(Berenblatt)* – Ms. Berenblatt is a private citizen concerned about the process by which postal rates are set.

BROWN PRINTING COMPANY *(Brown)* – Brown, with four printing plant locations, is a major printer of magazines and catalogs that utilize Periodicals, Standard A and B mail. Postage expenditures exceed $150 million each year.

DOUGLAS F. CARLSON *(Carlson)* – Mr. Carlson, an administrative analyst at the University of California, Berkeley, is representing himself in this proceeding.

CLASSROOM PUBLISHERS ASSOCIATION *(CPA)* – CPA is a trade association whose members publish classroom magazines, books, and other classroom materials. CPA members use postal services to mail their publications and are substantially impacted by any increase in postal rates.

COALITION OF RELIGIOUS PRESS ASSOCIATIONS *(CRPA)* – CRPA represents the interests of religious publishers. CRPA members are almost exclusively not-for-profit publications and organizations. Members use all classes of mail, but their major volume consists of Periodicals and Standard A Mail.

CONDÉ NAST PUBLICATIONS, INC. *(Condé Nast)* – Condé Nast, one of the largest publishers of consumer magazines, is a major user of all mail classes with a specific concentration in Periodicals and Standard Mail.

CONTINUITY SHIPPERS ASSOCIATION *(CSA)* – CSA members make use of all classes of mail, in particular Standard A parcels, Bulk Parcel Return Service, and Bound Printed Matter.

COX SAMPLING *(Cox Sampling)* – Cox Sampling, an affiliate of Cox Target Media, Inc., is a substantial user of Standard A Mail, as well as other classes of mail, in both quantity of items mailed and postage costs.

DIRECT MARKETING ASSOCIATION, INC. *(DMA)* – DMA is a trade association representing more than 3,000 direct marketers. DMA members utilize all classes of mail but particularly Standard A Mail.

DISTRICT PHOTO, INC. *(District Photo)* – District Photo is engaged in providing mail order photofinishing services and selling photo-related products nationwide.

R.R. DONNELLY & SONS COMPANY *(Donnelly)* – Donnelly's operations span catalog and periodical publishing, direct mail printing and presentation services, and parcel shipping, as well as electronic commerce, database management, retail, and financial services. As one of the world's largest printers, Donnelly is the single largest customer of the

Postal Service on a consolidated basis. Donnelly has a particular interest in the rates and classifications proposed for Standard A flats, Periodicals, First-Class Mail, and parcels.

DOW JONES & COMPANY, INC. *(Dow Jones)* – Dow Jones is a large user of the U.S. Mail, predominantly in Periodicals, for *The Wall Street Journal and Barron's*.

ELECTRONIC RETAILING ASSOCIATION *(ERA)* – ERA's membership encompasses a broad array of major retailers and other companies that sell products directly to consumers through electronic means—direct response television, radio, and the Internet. ERA member companies rely heavily on a number of mail classes to fulfill product orders and to complement electronic marketing efforts with various forms of advertising mail. ERA has a particular interest in parcels and Standard A Mail.

E-STAMP CORPORATION *(E-Stamp)* – E-Stamp, an Internet postage company, was the first to submit a complete PC Postage solution to the United States Postal Service. E-Stamp Internet postage enables customers to purchase, download, and print postage from their personal computers. The purchased postage can be printed using standard laser or inkjet printers. E-Stamp received approval from the Postal Service in August 1999 for its Internet postage service and since then has been providing its service nationally.

EXPERIAN *(Experian)* – Experian is a major provider of direct mail marketing services and user of the United States mail.

FEDEX EXPRESS CORPORATION *(FedEx)* – FedEx provides express delivery services throughout the United States and most foreign countries. FedEx competes directly and indirectly with the Postal Service but is also a substantial user of its services.

FLORIDA GIFT FRUIT SHIPPERS ASSOCIATION *(FGFSA)* – FGFSA members ship packages of fruit as gifts throughout the nation via Standard B parcel post. FGFSA members also use First-Class and Standard A Mail extensively.

GREETING CARD ASSOCIATION *(GCA)* – GCA is a trade association representing more than 170 greeting card publishers and suppliers to the industry. Its members account for more than 90 percent of the greeting card market in the United States. GCA is an advocate for the 95 percent of American households that mail greeting cards.

HALLMARK CARDS, INC. *(Hallmark)* – Hallmark is the largest publisher of greeting cards in the United States and is a large user of postal services. Since its primary product line is greeting cards, generally sent by First-Class Mail, Hallmark has a major interest in changes affecting First Class.

THE HEARST CORPORATION *(Hearst)* – Hearst is a New York-based diversified media company that owns daily newspapers such as the *San Francisco Examiner,* weekly newspapers, and magazines such as *Redbook* and *Good Housekeeping.* Hearst also has interests in broadcast and cable TV and makes use of all classes of mail.

INLAND CAPITAL CORPORATION *(Inland Capital)* – Inland Capital and its affiliates mail First-Class and Standard matter in addition to using many other postal services.

KEYSPAN CORPORATION D\B\A KEYSPAN ENERGY *(KeySpan)* – KeySpan is engaged primarily in the distribution of natural gas and the generation of electricity. KeySpan is a large user of mail services and incurs more than $12 million annually in total postage charges, primarily for customers' billing and business reply mail.

KNIGHT-RIDDER, INC. *(Knight-Ridder)* – Knight-Ridder is a diversified media company that has interests in newspapers. Knight-Ridder provides information services to customers and businesses. It makes extensive use of First-Class, Periodicals, and Standard Mail.

LIFETIME ADDRESSING, INC. *(Lifetime Addressing)* – Lifetime Addressing is a consulting organization working with clients interested in reducing the cost and improving the quality of First-Class mail services. Lifetime Addressing focuses on improving address quality, reducing undeliverable as addressed mail, and lowering overall postal costs.

THE LONG ISLAND POWER AUTHORITY *(Long Island Power)* – Long Island Power, a corporate municipal instrumentality and subdivision of the State of New York, is engaged in the purchase and distribution at retail of electricity in a portion of the State of New York that has a population of approximately three million. In connection with providing electric service, Long Island Power is a large user of mail services, primarily for customer billing and Qualified Business Reply Mail.

MAGAZINE PUBLISHERS OF AMERICA *(MPA)* – MPA is an association of more than 200 publishers of consumer magazines. MPA members use Periodicals to distribute their publications and use other classes for their billing and marketing operations.

MAIL ADVERTISING SERVICE ASSOCIATION INTERNATIONAL *(MASA)* – MASA is a trade association of approximately 500 Standard mailers. MASA has a direct interest in changes concerning Standard A letters and flats.

MAIL ORDER ASSOCIATION OF AMERICA *(MOAA)* – MOAA is an association of companies engaged in mail-order retailing. The members of MOAA make extensive use of First-Class and Standard Mail.

MAJOR MAILERS ASSOCIATION *(MMA)* – MMA, an association of First-Class mailers, is organized for the purpose of promoting fair and equitable postal rates, classifications,

and rules. MMA members are among the largest users of presorted and prebarcoded First-Class Mail. MMA representatives participate on the Postal Service's Mailers' Technical Advisory, First-Class, and Letters Implementation Committees.

THE MCCLATCHY COMPANY *(McClatchy)* – McClatchy is a diversified media company that has interests in newspapers. McClatchy provides information services to consumers and businesses. It makes extensive use of First-Class, Periodicals, and Standard Mail in the distribution of its products.

THE MCGRAW-HILL COMPANIES, INC. *(McGraw-Hill)* – McGraw-Hill publishes more than 150 business, professional, and technical publications that are distributed primarily through Periodicals class, as well as by First-Class Mail. McGraw-Hill also relies on Standard Mail to promote and market its diverse products and services. In addition, McGraw-Hill uses First-Class and Express Mail for general correspondence.

MEREDITH CORPORATION *(Meredith)* – Meredith, one of America's leading media and marketing companies, publishes a variety of magazines focused on service journalism for the home and family market, including *Better Homes and Gardens, Ladies Home Journal*, and more than 100 issues of *Better Homes and Gardens* Special Interest Publications. As a major publisher, Meredith is a large user of all classes of mail and Periodicals in particular.

PETER J. MOORE & ASSOCIATES, L.L.C. *(Moore)* – Moore is a consulting company which, among its other activities, provides consultation on postal matters to a broad spectrum of clients representing all mail classes.

MYSTIC COLOR LAB *(Mystic)* – Mystic provides mail order photofinishing services and sells photo-related products nationwide.

NATIONAL ASSOCIATION OF LETTER CARRIERS, AFL-CIO *(NALC)* – NALC, an affiliate of the AFL-CIO, is the collective bargaining representative for more than 220,000 city letter carriers employed by the Postal Service.

NATIONAL ASSOCIATION OF PRESORT MAILERS *(NAPM)* – NAPM represents presort mailers and presort service bureaus that provide a means for small businesses to participate in the Postal Service's presort programs. Collectively, NAPM members process more than 66 million pieces of mail daily.

NATIONAL FEDERATION OF NONPROFITS *(NFN)* – NFN is a national association of nonprofit organizations that hold nonprofit postal permits. NFN represents many of the nation's smaller nonprofit organizations. Both the NFN and its members use regular and nonprofit mail.

NATIONAL NEWSPAPER ASSOCIATION *(NNA)* – NNA, a not-for-profit trade organization, represents more than 3,400 community newspapers in the United States. NNA's members use all classes of mail and rely heavily upon Periodicals within county and outside county.

NATIONAL POSTAL MAIL HANDLERS UNION, AFL-CIO *(NPMHU)* – NPMHU serves as the exclusive bargaining representative for more than 58,000 mail handlers employed by the Postal Service. As a result, the members of NPMHU have an interest in the financial well-being of the Postal Service.

NEWSPAPER ASSOCIATION OF AMERICA *(NAA)* – NAA is a nonprofit organization representing more than 2,000 newspapers in the United States and Canada. Most NAA members are daily newspapers, accounting for 87 percent of the daily circulation in the United States.

NIAGARA TELEPHONE COMPANY *(Niagara)* – Niagara is a local exchange telephone company located in Niagara, Wisconsin. Niagara is a user of First-Class Mail for several purposes, including the delivery of its monthly telephone bills.

OFFICE OF THE CONSUMER ADVOCATE *(OCA)* – OCA, pursuant to its Congressional mandate, must "represent the interests of the general public" in rate and classification proceedings before the Commission. In carrying out this responsibility, OCA gives voice to segments of the general public generally unable to pay for private representation in Commission proceedings, such as individual consumers, small businesses, and nonprofit organizations.

PARCEL SHIPPERS ASSOCIATION *(PSA)* – PSA is an association consisting of approximately 100 members, primarily small businesses, from every section of the nation. Its members make use of Parcel Post service and Bound Printed Matter, in addition to other classes of mail.

J.C. PENNEY COMPANY, INC. *(J.C. Penney)* – J.C. Penney is a major user of First-Class Mail, Standard A Mail and Standard B Mail in connection with the operation of its catalog, insurance, retail, and other operations.

PERIODICAL PUBLICATIONS ASSOCIATION, INC. *(PPA)* – PPA is a national trade association representing periodical publishers. PPA members use all classes of mail.

PITNEY BOWES, INC. *(Pitney Bowes)* – Pitney Bowes is a major manufacturer and distributor of dedicated postal meters and computer-based metering technology.

DAVID B. POPKIN *(Popkin)* – Mr. Popkin is a citizen-advocate for improved postal services.

PROFESSIONAL FOOTBALL PUBLICATION ASSOCIATION, INC. *(PFPA)* – PFPA is a membership association for publishers of niche publications directed to the fans of professional football teams. Its members are typically users of Periodicals class. Members' publications are extremely time-sensitive, especially during football season, and require reliable and consistent delivery.

QUEBECOR WORLD (USA) INC. *(Quebecor World)* – Quebecor World, together with its affiliates, is one of the largest commercial printers in the United States and a user of postal services for the mailing of magazines, catalogs, direct mail, books, and other parcels for its customers. Quebecor World is a substantial user of all classes of mail with specific concentration in Periodicals and Standard Mail.

READER'S DIGEST ASSOCIATION, INC. *(RDA)* – RDA is a global leader in publishing and direct marketing. One of the heaviest users of the Postal Service, it relies on all classes of mail.

RECORDING INDUSTRY ASSOCIATION OF AMERICA *(RIAA)* – RIAA is a trade association that represents the U.S. Recording Industry. RIAA members use all mail classes and have a particular interest in Standard A parcels.

SATURATION MAIL COALITION *(SMC)* – SMC is a coalition of national, regional, and local mailers and mail users that use Standard A enhanced carrier route saturation mail for the distribution of free community papers, shopper publications, co-op envelope mail, and shared mail programs. Coalition members use a variety of mail classes in the course of their business.

SMARTMAIL, INC. *(SmartMail)* – SmartMail is an information-based distribution and expedited in-home delivery service for flat-sized mail, periodicals, and e-commerce lightweight parcels. SmartMail's service utilizes a full integration of several Postal Service services, including Express and Priority Mail and Standard A automated flat-size mail.

STAMPS.COM *(Stamps.com)* – Stamps.com is a provider of postage delivered via the Internet to a user's computer under the Postal Service's Information Based Indicia Program (IBIP). Stamps.com's service can be used for a number of mail classes.

THE NATION, L.P. *(The Nation)* – *The Nation*, a weekly, nationally-circulated journal of opinion, is mailed at Periodicals regular rates.

TIME WARNER, INC. *(Time Warner)* – Time Warner, directly and through subsidiaries, owns Time, Inc., Warner Communications, Inc., Turner Broadcasting System, Inc., and a percentage of Time Warner Entertainment Company, L.P. Through these companies, Time Warner publishes and distributes books and magazines and is actively engaged in

the fields of filmed entertainment, recorded music, music publishing, cable television programming, and cable television systems. Time Warner is a large user of all classes of mail.

U.S. NEWS & WORLD REPORT *(U.S. News)* – U.S. News publishes and distributes a number of print products, including a weekly news magazine and a monthly magazine, which mail as Periodicals. In addition, U.S. News mails a significant volume of mail in other classes, especially First-Class and Standard Mail.

UNITED PARCEL SERVICE *(UPS)* – UPS provides parcel delivery services throughout the United States via air and ground operations and also provides expedited letter and international delivery service. UPS competes with the Postal Service but is also a substantial user of postal services, especially First-Class Mail.

UNITED STATES POSTAL SERVICE *(Postal Service)* – The Postal Service was created as an independent establishment of the executive branch by the Postal Reorganization Act of 1970. According to the Act, "The Postal Service shall have as its basic function the obligation to provide postal services to bind the Nation together through the personal, educational, literary, and business correspondence of the people. It shall provide prompt, reliable, and efficient services to patrons in all areas and shall render postal services to all communities." The Postal Service's operating revenues approached $63 billion in 1999, and it delivered more than 200 billion pieces of mail.

VAL-PAK DEALERS' ASSOCIATION, INC. *(Val-Pak)* – Val-Pak Dealers' Association is an association of approximately 250 franchisees of Val-Pak Direct Marketing Systems, Inc. Its members are heavy users of Standard Mail, as well as other classes of mail.

VAL-PAK DIRECT MARKETING SYSTEMS, INC. *(Val-Pak)* – Val-Pak Direct Marketing Systems is the nation's largest direct mail cooperative advertising firm and operates through franchises nationwide. The franchises and approximately 1,200 sales representatives provide direct mail advertising services for more than 130,000 advertisers, primarily small business owners. Val-Pak Direct Marketing Systems and its franchises are heavy users of Standard A ECR Mail, as well as other classes of mail.

WATCHTOWER BIBLE AND TRACT SOCIETY OF NEW YORK, INC. *(Watchtower)* – Watchtower is a nonprofit publisher of Periodicals publications. It annually distributes 275 million copies of *The Watchtower* and *Awake!* These are sent out in 50 million mail pieces per year via the United States Postal Service.

WILLMAR ASSOCIATES INTERNATIONAL, INC. *(Willmar)* – Willmar, founded in Florida in 1987, is a marketing firm that which serves the mailing industry. Willmar advises major mailers, presort service bureaus, banks, and insurance companies on postal matters.

CAROL WRIGHT PROMOTIONS, INC. *(Carol Wright)* – Carol Wright, an affiliate of Cox Target Media, Inc., is a major user of the U.S. mails, particularly Standard A ECR Mail, in terms of both quantity of items mailed and costs of postage.

WITNESSES' TESTIMONY

BALL, JOSEPH E.   *FGFSA*   FGFSA-T-1
BARO, ORLANDO   *AISOP*   AISOP-T-2
BARON, DONALD M.   *Postal Service*   USPS-T-12, RT-12
BENTLEY, RICHARD E.
   KeySpan   KE-T-1, ST-1
   MMA   MMA-T-1, ST-1
BERNHEIMER, WALTER II   *DMA*   DMA-ST-3
BERNSTEIN, PETER   *Postal Service*   USPS-T-41
BOGGS, RAYMOND   *E-Stamp and Stamps.com*   E&S-T-1
BOZZO, A. THOMAS   *Postal Service*   USPS-T-15, RT-6, RT-18
BRADLEY, MICHAEL D.   *Postal Service*   USPS-T-18, T-22, RT-8
BRADPIECE, BERNARD   *SMC*   SMC-RT-1
BUC, LAWRENCE G.
   CSA, DMA, PostCom, PSA   CSA-T-1
   DMA, Advo, AISOP, ANM, Amazon, ABM,   DMA-T-1
      PostCom, APMU, Dow Jones, FGFSA,
      GCA, MPA, MOAA, MMA, McGraw-Hill,
      PSA, Time Warner
   DMA, Advo, AISOP, ANM, ABM, PostCom,   DMA-ST-2
      APMU, Dow Jones, FGFSA, GCA, MPA,
      MMA, McGraw-Hill, PSA, Time Warner
BUCKEL, HARRY J.   *SMC*   SMC-T-1
BURNS, ROBERT E.   *OCA*   OCA-T-2

CALLOW, JAMES F.   *OCA*   OCA-T-6, RT-1
CAMPBELL, CHRIS F.   *Postal Service*   USPS-T-29, RT-23
CLARK, JOHN L.   *Amazon*   AMZ-RT-2
CLIFTON, JAMES A.   *ABA and NAPM*   ABA&NAPM-T-1, ST-1, ST-2
COHEN, RITA D.
   MPA, ANM, ABM, CRPA, Dow Jones,   MPA-T-1, ST-1
      McGraw-Hill, NNA, Time Warner
COLLINS, SHERYDA C.   OCA   OCA-T-8

CROWDER, ANTOINETTE
    Advo   ADVO-RT-1
    MPA, Advo, ANM, PostCom, AAP, DMA,   MPA-T-5
       Dow Jones, MOAA, McGraw-Hill, NNA,
       PSA, Time Warner
CRUM, CHARLES L.   *Postal Service*   USPS-T-27

DANIEL, SHARON   *Postal Service*   USPS-T-28
DAVIS, SCOTT J.   *Postal Service*   USPS-T-30, RT-21
DEGEN, CARL G.   *Postal Service*   USPS-T-16, RT-5
DEITCH, LOUIS   *Postal Service*   Oral Testimony
DOWLING, WILLIAM   *Postal Service*   USPS-RT-3

EGGLESTON, JENNIFER L.   *Postal Service*   USPS-T-26, RT-20
ELLIOT, STUART W.
    MPA, ANM, ABM, CRPA, Dow Jones,   MPA-ST-2
      McGraw-Hill, NNA, Time Warner
    NNA   NAA-T-2
    RIAA   RIAA-ST-1
ERICKSON, KEN C.   *GCA*   GCA-T-1
EWEN, MARK D.   *OCA*   OCA-T-5

FRONK, DAVID R.   *Postal Service*   USPS-T-33

GERARDEN, TED P.   *OCA*   OCA-T-1
GIULIANO, VINCENT   *SMC*   SMC-RT-2
GLICK, SANDER A.
    MPA, ANM, ABM, CRPA, Dow Jones,   MPA-T-2
      McGraw-Hill, NNA, Time Warner
    PostCom and MASA   PostCom, et al.-T-1
    PSA   PSA-RT-1, RT-3
    RIAA   RIAA-T-1
GORDON, ROY   *Postal Service*   USPS-RT-17
GREENE, WILLIAM H.   *Postal Service*   USPS-RT-7

HALDI, JOHN
    Amazon   AMZ-RT-1
    ANM   ANM-T-1
    APMU   APMU-T-1, RT-1
    Pitney Bowes   PB-T-2
    Val-Pak and Carol Wright   VP-CW-T-1, VP-CW-RT-1
HARAHUSH, THOMAS W.   *Postal Service*   USPS-T-3
HARDING, S. SCOTT   *PostCom*   PostCom-RT-1
HARRISON, SHARON   *MMA*   MMA-T-2
HAY, KEITH
    MPA, Advo, ANM, ABM, PostCom, AAP,   MPA-T-4
        CRPA, DMA, Dow Jones, MOAA,
        McGraw-Hill, NNA, PSA, Time Warner
HEATH, MAX   *NNA*   NNA-T-1, RT-1
HEISLER, JAMES T.   *Pitney Bowes*   PB-T-3
HESELTON, FRANK R.   *Stamps.com*   Stamps.com-T-1
HORTON, ALVIN J.
    CRPA, ANM, ABM, Dow Jones, MPA,   CRPA-T-2
        McGraw-Hill, NNA, Time Warner
HUNTER, HERBERT B. III   *Postal Service*   USPS-T-5

JONES, DAVID M.   *PFPA*   PFPA-T-1
JONES, MICHAEL   *E-Stamp*   E-Stamp-T-1

KANEER, KIRK T.   *Postal Service*   USPS-T-40
KARLS, LLOYD   *PSA*   PSA-T-2
KASHANI, CAMERON   *Postal Service*   USPS-T-14
KAY, NANCY R.   *Postal Service*   USPS-T-23, ST-45, RT-13
KENT, CHRISTOPHER D.   *NAA*   NAA-RT-2
KIEFER, JAMES M.   *Postal Service*   USPS-T-37
KINGSLEY, LINDA A.   *Postal Service*   USPS-T-10
KUHR, THOMAS C.   *Stamps.com*   Stamps.com-T-2

LAWTON, LEORA E.   *Stamps.com*   Stamps.com-T-3
LUBENOW, JOE   *PostCom and MASA*   PostCom, et al.-T-3
LUCIANI, RALPH L.   *UPS*   UPS-T-5, ST-2

MACHARG, DENNIS *NAPM*	NAPM-T-1
MARTIN, JUDITH *Pitney Bowes*	PB-T-1
MAYES, VIRGINIA J. *Postal Service*	USPS-T-32
MAYO, SUSAN W. *Postal Service*	USPS-T-39, RT-22
MEEHAN, KAREN *Postal Service*	USPS-T-11
MERRIMAN, ROGER *SMC*	SMC-T-2
MILANI, LOUIS J. *ANM, ABM, MPA*	ANM-T-2
MILLER, MICHAEL W. *Postal Service*	USPS-T-24, RT-15
MOELLER, JOSEPH D. *Postal Service*	USPS-T-35
MORROW, WILLIAM A.	
ABM, ANM, CRPA, Dow Jones, MPA, NNA, McGraw-Hill, Time Warner	ABM-T-1
MUSGRAVE, GERALD L. *Postal Service*	USPS-T-8
NAVANSKY, VICTOR *The Nation*	NA-T-1
NEELS, KEVIN *UPS*	UPS-T-1, T-3, RT-1, NOI/POIR-T-1
NELSON, MICHAEL A.	
MPA, ANM, ABM, CRPA, Dow Jones, McGraw-Hill, NNA, Time Warner	MPA-T-3
O'BRIEN, JAMES	
Time Warner, ANM, ABM, CRPA, Dow Jones, MPA, McGraw-Hill, NNA	TW-T-2
O'HARA, DONALD J. *Postal Service*	USPS-RT-19
O'TORMEY, WALTER *Postal Service*	USPS-ST-42
PAFFORD, BRADLEY V. *Postal Service*	USPS-T-4
PATELUNAS, RICHARD L. *Postal Service*	USPS-ST-44, RT-4
PICKETT, JOHN T. *Postal Service*	USPS-T-19, RT-9
PLUNKETT, MICHAEL K. *Postal Service*	USPS-T-36
PRESCOTT, RICHARD L. *Postal Service*	USPS-RT-24, RT-26
PRESCOTT, ROGER C.	
E-Stamp	E-Stamp-T-2
MOAA	MOAA-T-1, RT-2
MOAA and DMA	MOAA, et al.-RT-1
RAMAGE, MARK F. *Postal Service*	USPS-T-2

RAYMOND, LLOYD   *Postal Service*   USPS-T-13, RT-11
ROBINSON, MAURA   *Postal Service*   USPS-T-34
ROSENBERG, EDWIN A.   *Postal Service*   OCA-T-3, RT-2

SALLS, MURY   *MMA*   MMA-T-3
SAPPINGTON, DAVID E. M.   *UPS*   UPS-T-6
SCHICK, JOSEPH E.   *PostCom and MASA*   PostCom et al.-T-2
SCHROEDER, PATRICIA   *AAP*   AAP-T-1
SELLICK, STEPHEN E.   *UPS*   UPS-T-2, T-4, ST-1
SHEKETOFF, EMILY   *ALA*   ALA-T-1
SIWEK, STEPHEN E.   *AAP*   AAP-T-2, ST-4
SMITH, J. EDWARD   *OCA*   OCA-T-4, RT-4
SMITH, MARC A.   *Postal Service*   USPS-T-21
SMITH, RICHARD   *AISOP*   AISOP-T-1
STAISEY, NANCY   *Postal Service*   USPS-RT-16
STAPERT, JOHN C.
   CRPA, ANM, ABM, Dow Jones, MPA,   CRPA-T-1
      McGraw-Hill, NNA, Time Warner
STEVENS, DENNIS P.   *Postal Service*   USPS-T-20, RT-14
STRALBERG, HALSTEIN
   Time Warner, ANM, ABM, CRPA, Dow Jones, TW-T-1, ST-1, RT-1
      MPA, McGraw-Hill, NNA
STRASSER, RICHARD J., JR.   *Postal Service*   USPS-RT-1

TAUFIQUE, ALTAF H.   *Postal Service*   USPS-T-38, RT-25
TAYMAN, WILLIAM P.   *Postal Service*   USPS-T-9
THOMPSON, PAMELA A.   *OCA*   OCA-T-9, RT-3
THRESS, THOMAS E.   *Postal Service*   USPS-T-7, ST-46
TOLLEY, GEORGE S.   *Postal Service*   USPS-T-6
TYE, WILLIAM B.   *NAA*   NAA-T-1

UNGER, DENNIS R.   *Postal Service*   USPS-ST-43

VAN-TY-SMITH, ELIANE   *Postal Service*   USPS-T-17

WELLS, ROSEMARY   *AAP*   AAP-T-3
WHITE, JOHN   *AAPS*   AAPS-T-1

WILLETTE, GAIL   *OCA*   OCA-T-7
WILSON, WILLIAM   *NAA*   NAA-RT-1
WITTNEBEL, JON   *PSA*   PSA-RT-2

XIE, JENNIFER J.   *Postal Service*   USPS-T-1

YACOBUCCI, DAVID G.   *Postal Service*   USPS-T-25
YEZER, ANTHONY M.   *Postal Service*   USPS-T-31
YOUNG, JAMES D.   *Postal Service*   USPS-RT-10
ZARNOWITZ, VICTOR   *Postal Service*   USPS-RT-2
ZIMMERMAN, WIN   *PSA*   PSA-T-1

WITNESSES' BIOGRAPHIES

BALL, JOSEPH E. *(FGFSA-T-1)* – Mr. Ball is the Executive Vice President of Florida Gift Fruit Shippers Association. His duties and responsibilities have involved all aspects of transportation matters pertaining to gift fruit shipments, including development of charges, rates for pickup, handling, line haul, and delivery at destination. He is also a member of the Board of Directors of Parcel Shippers Association. A witness in three previous Commission proceedings, he received his M.B.A. in personnel administration from George Washington University.

BARO, ORLANDO *(AISOP-T-2)* – Mr. Baro is the Director of Sales for *The Flyer*, a free paper publication in South Florida. He has been in the free paper industry since 1982. Through his work with *The Flyer*, and other newspapers, Mr. Baro has actively participated in a number of trade associations, including the Association of Free Community Papers. His responsibilities over the years have included all aspects of operations, with a primary focus in sales, recruiting, and training.

BARON, DONALD *(USPS-T-12, RT-12)* – Mr. Baron is Vice President with Foster Associates, Inc., an economics-consulting firm that has assisted the Postal Service in a wide variety of studies to measure and analyze product and operation costs since 1960. Prior to joining Foster Associates, he worked for Arthur D. Little, Inc., where he specialized in analysis of postal costs, as well as the development of economic models of postal demand and operational productivity. He submitted testimony in Docket No. R97-1 and has published articles for economic journals on various postal costing and productivity issues. He received his M.A. in economics from the University of Michigan and holds a J.D. from Washington University.

BENTLEY, RICHARD E. *(KE-T-1, ST-1, MMA-T-1, ST-1)* – Mr. Bentley is President of Marketing Designs, Inc., a marketing and consulting firm. He holds an M.B.A. from Cornell University's School of Business and Public Administration. From 1973 until 1979, he worked for the Postal Rate Commission, where his responsibilities included analysis of Postal Service costs, volumes, rates, and operations. Since forming his own company in 1982, he has testified before the Commission in several cases, including every omnibus rate case and Docket No. MC95-1.

BERNHEIMER, WALTER II *(DMA-ST-3)* – Mr. Bernheimer is President of Bernheimer Associates, a management consulting group located in Wellesley, Massachusetts, that serves clients in the direct marketing industry. He is active in various trade organizations and has served on the Board of Directors of the Direct Marketing Association and the Board of Directors of the Mail Advertising Service Association. He serves on the DMA's

Government Affairs Committee and Postal Subcommittee. He is also a member of the Association for Postal Commerce and the Mailers Council.

BERNSTEIN, PETER *(USPS-T-41)* – Mr. Bernstein is Vice President of RCF Economic and Financial Consulting, Inc. His major responsibilities include forecasting, econometrics, and quantitative analysis. He is currently a faculty member in the Department of Economics at DePaul University in Chicago and has taught at Loyola University of Chicago and the University of Chicago Graduate School of Business. In Docket No. R97-1, Mr. Bernstein submitted testimony on Ramsey pricing. He earned a master's degree in finance and economics from the University of Chicago Graduate School of Business. He has completed all course work and examinations toward a Ph.D. from the University of Chicago.

BOGGS, RAYMOND *(E&S-T-1)* – Mr. Boggs is Vice President of Small Business and Home Research Programs at International Data Corporation in Framingham, Massachusetts. He has a diverse background in the communications, computer, and office automation industries, as well as consumer and channel research. As part of his work, Mr. Boggs directs survey research, forecasting, and market analysis for advanced telecommunications, personal computing, and office automation products and services for small businesses and home offices. His research includes identifying key product requirements of different segments, tracking changing customer channel preferences, and evaluating alternative strategies in response to competitive developments.

BOZZO, THOMAS *(USPS-T-15, RT-6, RT-18)* – Mr. Bozzo is a Senior Economist with Christensen Associates, an economic research and consulting firm located in Madison, Wisconsin. Much of his work at Christensen Associates has dealt with theoretical and statistical issues related to Postal Service cost methods, particularly for mail processing. Mr. Bozzo's postal projects have included econometric productivity modeling and performance measurement for Postal Service field units, estimation of standard errors of CRA inputs for the Data Quality Study, and surveys of Remote Barcode System and rural delivery volumes.

BRADLEY, MICHAEL D. *(USPS-T-18, T-22, RT-8)* – Dr. Bradley is a Professor of Economics at George Washington University. He has published many articles on both econometrics and economic theory. Postal economics has been his major area of study for the last 15 years. He has participated in several proceedings before the Commission, testifying for the Postal Service on purchased transportation, mail processing costs, and city carrier costing. He has also served as a consultant to trade associations, manufacturing corporations, and government agencies. The recipient of numerous academic and non-academic awards, he holds a Ph.D. in economics from the University of North Carolina.

BRADPIECE, BERNARD *(SMC-RT-1)* – Mr. Bradpiece is President, CEO, and owner of the Pennysaver Group, a saturation-mailed weekly free paper with a circulation of 1.3 million in Maryland and northern Virginia. He is also the owner of the Metro Community News, a 290,000-circulation saturation weekly free newspaper, distributed by private carrier in Erie and portions of Niagara Counties in New York. Prior to owning the papers, Mr. Bradpiece worked as an independent international business consultant. His responsibilities included creating and executing strategies to restructure business operations or balance sheets in order to improve operating performance and/or attract new capital.

BUC, LAWRENCE G. *(CSA-T-1, DMA-T-1, ST-2)* – Mr. Buc is the President of Project Performance Corporation (PPC). PPC is a consulting firm that provides economic, information technology and environmental consulting services to private and public sector clients. He co-directs a practice that focuses on economic and cost analysis, and he has responsibility for the overall finances of the firm. He has analyzed postal costs for the Postal Service, the Commission, and private clients, and he has participated in seven previous rate cases. A graduate of Brown University, Mr. Buc received his M.A. in economics from George Washington University.

BUCKEL, HARRY J. *(SMC-T-1)* – Mr. Buckel is a consultant for Times Mirror and a member of the Board of Directors of Trinity Publishing, a company with paid and free weekly papers in the Pittsburgh market. Mr. Buckel has belonged to and actively participated in numerous trade and industry associations relating to postal and publishing matters. He served as industry co-chairman of the Postmaster General's Worksharing Task Force and Chairman of the Third Class Mail Association. He has presented testimony in three previous cases.

BURNS, ROBERT E. *(OCA-T-2)* – Mr. Burns is a Senior Research Specialist and one of two attorneys at the National Regulatory Research Institute (NRRI), the research and public service organization for the National Association of Regulatory Utility Commissioners. He has 21 years of public utility and public policy research experience and has written 50 major NRRI reports, including studies dealing with average and marginal cost of service issues.

CALLOW, JAMES F. *(OCA-T-6, RT-1)* – Mr. Callow is a Postal Rate and Classification Specialist in the Commission's Office of the Consumer Advocate. He previously testified before the Commission in Docket Nos. MC98-1, R97-1, MC96-3, and MC95-1. Prior to joining the Office of the Consumer Advocate, he was special assistant to Postal Rate Commissioner H. Edward Quick, Jr. He also worked for a U.S. Senator and a member of Congress from Michigan and the Governor of the State of Michigan. He received his M.S. in accounting from Georgetown University.

CAMPBELL, CHRIS F. *(USPS-T-29, RT-23)* – Mr. Campbell is an Operations Research Specialist in Special Studies at Postal Service Headquarters. Since joining the Postal Service in 1998, Mr. Campbell has worked on costing issues, with primary focus on Special Services and Qualified Business Reply Mail. Mr. Campbell, a former Environmental Engineer for the U.S. Environmental Protection Agency in Chicago, earned his B.S. in Industrial Engineering from Purdue University and his M.B.A. from the University of Michigan.

CLARK, JOHN L. *(AMZ-RT-2)* – Mr. Clark is the founder, and until February of 2000, was Chairman and Chief Executive Officer of CTC Distribution Services, L.L.C. CTC serves the direct marketing community by developing and managing distribution programs designed to deliver small parcels in a timely and cost-effective manner. Since 1991, CTC has shipped 660 million parcels through the Postal Service.

CLIFTON, JAMES A. *(ABA&NAPM-T-1, ST-1, ST-2)* – Dr. Clifton is President of Washington Economics Consulting Group, Inc. WECG specializes in regulatory and economic policy analysis and also provides litigation support services. Previously, Dr. Clifton was Associate Professor of Economics and Business at The Catholic University of America. Dr. Clifton's professional experience includes work for Nathan Associates, Inc., the Center for Industrial Competitiveness, Inc., the U.S. House of Representatives, and the U.S. Chamber of Commerce. He holds a Ph.D. in economics from the University of Wisconsin–Madison. This is his fifth appearance before the Commission.

COHEN, RITA D. *(MPA-T-1, ST-1)* – Ms. Cohen is the Senior Vice President for Legislative and Regulatory Policy at the Magazine Publishers of America. She is the Association's executive for the Mailers' Technical Advisory Committee and a member of the Postal Service's Periodical Advisory Group. Before joining MPA, she was a vice president of the International Consulting Firm (ICF) Inc., based in Fairfax, Virginia, where she directed and performed economic and policy analyses for both private and government clients. She has worked as a statistician on the staff of the Commission, as a Cost Analyst in the Revenue and Cost Analysis Division of the Postal Service, and as an Operations Research Analyst in the Mail Classification Research Division and Office of Rates. She has a master's degree in business and applied economics from the University of Pennsylvania where, as an undergraduate, she received the J. Parker Burst prize for Outstanding Achievement in Statistics.

COLLINS, SHERYDA C. *(OCA-T-8)* – Ms. Collins is a Rate and Classification Analyst in the Commission's Office of the Consumer Advocate. She has testified before the Commission in the MC95-1, MC96-3, R97-1, and MC98-1 proceedings. As an analyst on the Commission's staff, Ms. Collins performed technical analyses for the Commission's R74-1, R87-1, R90-1, and R94-1 decisions, as well as for many of its classification decisions. She received a bachelor's degree from the University of

Massachusetts. She has completed additional coursework in economics, public utility regulation, statistics, accounting, data processing, and programming.

CROWDER, ANTOINETTE *(ADVO-RT-1, MPA-T-5)* – Ms. Crowder is a senior consultant with TRANSCOMM, Inc., an engineering and economic consulting firm in Falls Church, Virginia. During her career with TRANSCOMM, she has worked on a variety of projects dealing with costing, pricing, market and demand studies, economic and financial analyses, survey design, and research on regulatory and pricing issues. Ms. Crowder has been involved with postal ratemaking and policy matters for more than 20 years and has testified before the Commission in seven proceedings. She received her M.S. in biology from George Mason University and has completed additional course work in economics, mathematics, and statistics.

CRUM, CHARLES L. *(USPS-T-27)* – Mr. Crum has worked for the Postal Service since 1995 as an Economist in the Office of Product Finances. His focus has been on parcel issues at Bulk Mail Centers, Processing and Distribution Centers, delivery stations, and other facilities. He presented testimony in R97-1. Previously Mr. Crum was employed by Westvaco Corporation and was responsible for the Fine Paper and Envelope Divisions. He received his M.B.A. from the Fuqua School of Business at Duke University.

DANIEL, SHARON *(USPS-T-28)* – Ms. Daniel, an Operations Research Analyst, has worked in the Office of Product Cost Studies at the Postal Service since 1995. Prior to joining the Postal Service, she was a consultant with Price Waterhouse in the Center for Postal Consulting. She received her B.S. in mathematics and M.S. in operations research from the College of William and Mary. This is her third appearance before the Commission.

DAVIS, SCOTT J. *(USPS-T-30, RT-21)* – Mr. Davis is an Economist in Special Studies within Activity Based Management, Finance, at Postal Service Headquarters. His primary responsibilities include developing costs for Special Services, assisting with the development of cost models for flat-shaped mail, and analyzing mail preparation requirements and discount eligibility rules. Prior to joining the Postal Service, he served as a Staff Accountant at Reston Hospital Center in Reston, Virginia, where he performed general accounting duties, including budget preparation, review of financial statements, and analysis and reconciliation of accounts.

DEGEN, CARL G. *(USPS-T-16, RT-5)* – Mr. Degen is Senior Vice President of Christensen Associates, an economic research and consulting firm in Madison, Wisconsin, where he has worked on productivity measurement in the transportation industries and the Postal Service and provided litigation support and expert testimony for clients. In Docket No. R94-1, he testified on the Postal Service's In-Office Cost System. He also gave direct testimony in Docket Nos. MC95-1, MC96-2, and R97-1. He earned his M.S. in

economics from the University of Wisconsin–Madison and has completed the course work and qualifying exams for a Ph.D.

DEITCH, LOUIS *(Oral Testimony for the Postal Service)* – Mr. Deitch is an accountant in the National Accounting Office in Finance at the Postal Service. For the last 17 years he has been responsible for accounting policies and procedures dealing with fixed assets.

DOWLING, WILLIAM J. *(USPS-RT-3)* – Mr. Dowling, Vice President of Engineering at the Postal Service, oversees all engineering and development efforts focused on internal processes. He also directs all engineering and acquisition support functions, including the design and development of new automation, material handling systems, and vehicles. Mr. Dowling received his undergraduate degree from the Polytechnic Institute of Brooklyn and his master's in management from the Massachusetts Institute of Technology.

EGGLESTON, JENNIFER L. *(USPS-T-26, RT-20)* – Ms. Eggleston is an Economist in the Special Studies division in the Office of Activity Based Management. Her previous work includes the Bulk Parcel Return Service Cost Study provided to the Commission to fulfill the requirements of Docket No. MC97-4 and testimony in Docket No. MC99-4. Before she joined the Postal Service, Ms. Eggleston worked as an economist for Research Triangle Institute, a nonprofit research firm in North Carolina, where her duties included estimating the potential costs and benefits of special government regulations and performing cost benefit analysis of new drug treatments.

ELLIOTT, STUART W. *(MPA-ST-2, NNA-T-2, RIAA-ST-1)* – Dr. Elliott is a Senior Analyst at Project Performance Corporation, a consulting firm based in McLean, Virginia, that provides management, information technology, and environmental consulting services to private and public sector clients. He works primarily on analysis related to postal economics. He received a B.A. in economics from Columbia University, a Ph.D. in economics from the Massachusetts Institute of Technology, and postdoctoral training in experimental psychology at Carnegie Mellon University.

ERICKSON, KEN C. *(GCA-T-1)* – Dr. Erickson is an Associate Professor at the University of Missouri, Kansas City, and Director of the Center for Ethnographic Research in the College of Arts and Sciences at the University. His research and publications have focused on consumer product design in print and electronic communications; on multi-ethnic meatpacking plants in the Midwest; on immigrant/established resident relations in the United States; on Vietnamese immigrant household organization, and on multilingualism, anthropological linguistics, and bilingual education. He holds a Ph.D. in cultural anthropology from the University of Kansas and has been published extensively.

EWEN, MARK D. *(OCA-T-5)* – Mr. Ewen is a Senior Associate with Industrial Economics, Inc. of Cambridge, Massachusetts, specializing in utility economics,

economic damage estimation, and financial analysis of entities that are subjects of environmental enforcement actions. As part of his work, Mr. Ewen has testified and submitted expert reports before Federal Administrative Courts and Federal District Courts. He received a B.A. in economics and political science from the University of North Dakota and an M.A. in Public Policy from the University of Michigan.

FRONK, DAVID R. *(USPS-T-33)* – Mr. Fronk is an Economist in Pricing for the Postal Service. Since 1996, he has developed domestic rate and fee proposals specifically related to First-Class Mail. Prior to joining the Postal Service, he worked as an economist and management consultant independently and with Putnam, Hayes & Bartlett, Inc. Mr. Fronk received his M.A. in economics from George Washington University and his M.B.A. from Stanford University.

GERARDEN, TED P. *(OCA-T-1)* – Mr. Gerarden has been the Director of the Office of the Consumer Advocate at the Postal Rate Commission since February 1999. As a private practitioner, prior to joining the Commission, Mr. Gerarden primarily represented energy companies in proceedings before the Federal Energy Regulatory Commission (FERC) and the courts. Mr. Gerarden holds a J.D. degree from Georgetown University Law School and a B.S.F.S. degree from Georgetown University.

GIULIANO, VINCENT *(SMC-RT-2)* – Mr. Giuliano, Senior Vice President of Government Relations for Advo, Inc., deals with all governmental activities that may affect Advo, especially matters concerning postal regulations, services, and rates. He has participated in Advo's rate case preparation in every case since Docket No. R80-1. Mr. Giuliano is Secretary of PostCom and a member of its Executive, Postal Policy, Public Affairs, and Postal Operations Committees. He is also a member of the Direct Marketing Association's Government Affairs Committee, the Saturation Mail Coalition's Steering Committee, the U.S. Chamber of Commerce, and the Small Business Council.

GLICK, SANDER A. *(MPA-T-2, PostCom, et al.-T-1, PSA-RT-1, RT-3, RIAA-T-1)* – Mr. Glick co-manages the Economic Systems practice at Project Performance Corporation (PPC), which provides management information technology and environmental consulting services in the public and private sectors. In Docket No. R97-1, he testified regarding the fee for Qualified Business Reply Mail (QBRM) and the method for distributing carrier costs. He received a Master of Public Administration from the Maxwell School of Citizenship and Public Affairs at Syracuse University.

GORDON, ROY *(USPS-RT-17)* – Mr. Gordon is the Manager of the Information Based Indicia Program for the Postal Service with the responsibility of ensuring the security of postage revenues from products that produce Information Based Indicia. To meet this end, performance criteria are developed that establish security levels that the products must meet or exceed; regulations are published regarding the development and use of products, and products are tested and evaluated against the performance criteria and

regulations. Mr. Gordon has helped develop the Publisher's Electronic Payment System, the Mailer's Electronic Payment Program System, and the Bulk Mail Acceptance and Accounting Reporting System.

GREENE, WILLIAM A. *(USPS-RT-7)* – Dr. Greene is a professor of econometrics at the Stern School of Business at New York University and chairman of Stern's Economics Department. He received an M.A. and a Ph.D. from the University of Wisconsin at Madison. Dr. Greene has published numerous works in econometrics, including the widely used textbook *Econometric Analysis*.

HALDI, JOHN *(AMZ-RT-1, ANM-T-1, APMU-T-1, RT-1, PB-T-2, VP-CW-T-1, RT-1)* – Dr. Haldi is President of Haldi Associates, Inc., an economic and management consulting firm, whose clients have included government, business, and private organizations. He has testified before Congress and state legislatures, as well as the Commission, and has published numerous articles and consulting studies. He also co-authored the book *Postal Monopoly: An Assessment of the Private Express Statutes*. He received his M.A. and Ph.D. in economics from Stanford University.

HARAHUSH, THOMAS W. *(USPS-T-3)* – Mr. Harahush is a Mathematical Statistician in Cost Systems, Finance, at the Postal Service. Since 1985, he has worked on a number of statistical issues in the areas of cost and service performance. He received his B.S. in mathematics from Pennsylvania State University and has conducted graduate studies in mathematical statistics and survey sampling at George Washington University.

HARDING, S. SCOTT *(PostCom-RT-1)* – Mr. Harding is the Chairman and CEO of Newspaper Services of America, an organization that provides advertisers with print media services. He is also on the Board of Directors for the Audit Bureau of Circulation, a nonprofit organization that works with advertisers and publishers.

HARRISON, SHARON *(MMA-T-2)* – Ms. Harrison is the Technical Director of Billing Solutions Technology for SBC Services, Inc. Her experience includes customer service, marketing, training, billing applications, and mailing operations. Recently Ms. Harrison has had responsibility for maintaining postal relations, assessing new postal requirements, and overseeing the development, processing, and implementation of billing changes to support Postal Service requirements. She has also been in charge of Pacific Bell's Bill Address Correction Center, which processes all of Pacific Bell's undeliverable-as-addressed customer bills.

HAY, KEITH *(MPA-T-4)* – Mr. Hay, Professor of Economics at Carleton University, is the President of Econolynx International, Ltd., a company specializing in economic research. He has been an international consultant for the World Bank, the Asian Development Bank, the International Development Bank, the Bank of Canada, the Canadian International Development Agency, the Organization of American States, and numerous

international corporations, trading companies, and banks. Mr. Hay was the technical editor on the Data Quality Study, allowing him to meet with the authors and discuss various data quality issues at length.

HEATH, MAX *(NNA-T-1, RT-1)* – Mr. Heath is Vice President and Executive Editor for Landmark Community Newspapers, Inc. (LCNI) which publishes 48 weekly and daily newspapers in 12 states. He is responsible for editorial and circulation development and postal issues. He is also involved in recruitment, public relations, and press association activities. As the community newspaper industry's principal trainer on the use of postal services, compliance with regulatory requirements, and understanding sorting and work-sharing requirements, Mr. Heath also serves as Chairman of the National Newspaper Association's Postal Committee.

HEISLER, JAMES T. *(PB-T-3)* – Dr. Heisler, Executive Vice President of Opinion Research Corporation International, has worked in the marketing research industry for 32 years. Currently, he is Director of Interactive Services. He has also been responsible for professional practices serving the information technology and telecommunications industries and the market assessment issues area. Dr. Heisler received a Ph.D. in social psychology from the Illinois Institute of Technology.

HESELTON, FRANK R. *(Stamps.com-T-1)* – Mr. Heselton is an independent consultant on postal rates and related matters, including pricing, costing, data collection and reporting, rate administration, and rate-setting processes and legislation. During his more than 30 years at the Postal Service and Post Office Department, Mr. Heselton held numerous positions, including Assistant Postmaster General in the Rates and Classification Department, Manager of Rate Case Formulation, and Principal Economist advising the Postal Service on postal reform legislation. He also holds a B.A. in economics from the University of Michigan and a J.D. and an M.B.A. from George Washington University.

HORTON, ALVIN J. *(CRPA-T-2)* – Mr. Horton is a clergy member of the Virginia Annual Conference of The United Methodist Church, a regional connection of 1,225 local Methodist congregations with more than 342,737 members. He is also the editor of the *Virginia United Methodist Advocate*, the official news magazine of the conference. He received M.Div. and Th.M. degrees from the Divinity School of Duke University.

HUNTER, HERBERT B. III *(USPS-T-5)* – Mr. Hunter is an Operations Research Analyst in the Revenue, Volume & Performance Measurement office of the Postal Service. His responsibilities are to design, develop, and oversee statistical surveys and data reporting systems in order to provide and improve the measures of Revenue, Pieces, and Weight (RPW) System volumes and service performance. He has provided technical support to Postal Service cost, roll forward, and volume model witnesses in five previous rate cases and testified in Docket No. MC96-2. Mr. Hunter has a B.S. in Mathematics from George

Mason University and has done postgraduate work there and at George Washington University.

JONES, DAVID M. *(PFPA-T-1)* – Mr. Jones owns American Sports Media, which publishes unofficial newspapers for five National League Football teams. He holds a business and marketing degree from the Rochester Institute of Technology. Prior to entering the sports publication business, Mr. Jones' background was in advertising sales. He is also on the Board of Directors of the Professional Football Publication Association.

JONES, MICHAEL *(E-Stamp-T-1)* – Mr. Jones is the Director of the USPS Programs group for E-Stamp Corporation. He has a B.A. in finance from Lehigh University. Mr. Jones is responsible for E-Stamp's compliance with postal regulations, particularly as they pertain to the specific regulations and specifications written for the PC Postal industry. He also coordinated all of the necessary rate table updates for E-Stamp's product as a result of the Docket No. R97-1 increase.

KANEER, KIRK T. *(USPS-T-40)* – Mr. Kaneer, an Economist in Classification and Product Development at the Postal Service, develops classification proposals and cost analyses for use in domestic rate and fee designs. He also worked in Pricing and the Labor Economics Research Division. Prior to joining the Postal Service, he worked at the Bureau of Labor Statistics. Mr. Kaneer also appeared in Docket Nos. R97-1 and MC96-2. He received a B.S. degree in economics and business administration from the University of Central Florida and his M.A. in economics from Florida State University.

KARLS, LLOYD *(PSA-T-2)* – Mr. Karls, Manager of Parcel Delivery Services for Fingerhut Companies, Inc., manages the delivery of parcels for that company. He is accountable for carrier selection, maintaining the postage system design, and meeting customer delivery standards while improving corporate financial performance by reducing the significant corporate expense. Mr. Karls is on the Mailers' Technical Advisory Committee, representing the Parcel Shippers Association, and is an elected member of PSA's Executive Committee.

KASHANI, CAMERON *(USPS-T-14)* – Mr. Kashani, an Economist with the Postal Service, works on the rollforward model and other costing issues. While with the Postal Service, Mr. Kashani has produced the Revenue, Pieces, and Weight (RPW) estimates and revenue and volume forecasts. He has also worked at the FCC, where he drafted rulemakings on restructuring the cost-of-service and price cap policies. He has been employed by the Internal Revenue Service and the State of Alaska. Mr. Kashani holds a B.A. in public administration from Tehran University and an M.A. in economics from the University of Colorado. He received an Executive Certificate in International Business from the Johns Hopkins University School of Advanced International Studies.

KAY, NANCY R. *(USPS-T-23, ST-45, RT-13)* – Ms. Kay, a project director with Foster Associates, Inc., has analyzed postal costing issues, specifically in the areas of incremental cost, mail processing, post office box costs, and city and rural carrier delivery. She developed the model used to estimate incremental costs and prepared workpapers and library references for the incremental cost testimony presented in Docket No. R97-1.

KENT, CHRISTOPHER D. *(NAA-RT-2)* – Mr. Kent, President of FTI/Klick & Allen, an economic and financial consulting firm, is involved in calculating revenues, costs, lost profits, and project valuations associated with a wide variety of industries and endeavors. Most of his work, virtually all of which involves the development and use of complex computerized models using detailed input data, has been focused toward rate proceedings in the railroad and telecommunications industry.

KIEFER, JAMES M. *(USPS-T-37)* – Dr. Kiefer, an Economist in the Office of Pricing, Marketing Systems at the Postal Service, works on issues related to Special Standard and Library Mail, Special Services, and nonletter-size Business Reply Mail. He previously worked for the Vermont Department of Public Services, where he investigated utility costs, rates, load forecasts, and long term plans, developed long range electric generation expansion plans, performed economic impact studies, and contributed to a long-term energy use plan for the State of Vermont. He holds a B.A. in chemistry, an M.A., and a Ph.D. in economics from Johns Hopkins University, and an M.B.A. from Rutgers University. He also holds an M.A in international relations from the Nitze School of Advanced International Studies. Dr. Kiefer testified previously in Docket Nos. MC99-1 and MC99-2.

KINGSLEY, LINDA A. *(USPS-T-10)* – Ms. Kingsley is the Manager of Operational Requirements within Operations Planning at the Postal Service. She obtained a B.S. in industrial engineering from the University of Wisconsin–Madison, and an M.B.A. from the University of Maryland. Her responsibilities at the Postal Service include assisting in the development of mail make-up requirements for compatibility with operational processing, determining operational impacts resulting from rate and mail classification cases, and preparing the field for the expected changes.

KUHR, THOMAS C. *(Stamps.com-T-2)* – Mr. Kuhr is the Vice President of Technology Operations for Stamps.com. He has been directly responsible for designing much of Stamps.com's Internet Postage software product, concentrating on the functionality of the company's Postage Servers—including communications, security, Postal Service reporting and address verification. Mr. Kuhr has a background in product management, program management, and product marketing, and he has worked for other software and Internet companies designing and documenting feature requirements and functionality.

LAWTON, LEORA E. *(Stamps.com-T-3)* – Dr. Lawton, Director of Research at Informative, Inc., conducts business research with a specialization in online survey methodologies and a focus on high tech industries, including telecommunications, information technology, electronics manufacturing, and related industries. Dr. Lawton has an undergraduate degree from the University of California, Berkeley and a Ph.D. from Brown University. She has written numerous articles for major trade magazines and scholarly journals and contributed several chapters for scholarly and lay-person texts. She has also been invited to speak at several international conferences for both industry and academia and has given dozens of trade and scholarly presentations.

LUBENOW, JOE *(PostCom, et al.-T-3)* – Mr. Lubenow is the Vice President of Postal Affairs for Experian, an information services company that is a subsidiary of The Great Universal Stores, P.L.C. He has been involved in pioneering the use of each of the major Postal Service licensed address quality tools by the mailing industry, including the National Change of Address (NCOA), Delivery Sequence File (DSF), Locatable Address Conversion System (LACS), and Address Element Correction (AEC). Mr. Lubenow holds a B.A. from Lawrence University and an M.A. in philosophy from the University of Chicago.

LUCIANI, RALPH L. *(UPS-T-5, ST-2)* – Mr. Luciani is a Vice President of PHB Hagler Bailly, an economic and management consulting firm specializing in public policy and corporate strategy. He has 15 years of consulting experience analyzing economic and financial issues affecting regulated industries, including costing, ratemaking, business planning, and competitive strategy issues. In Docket No. R97-1, Mr. Luciani presented testimony regarding the costing and rate design of Parcel Post and Priority Mail. Previously, Mr. Luciani worked as an engineer at General Electric Company and as a financial analyst at IBM Corporation. He received his M.S. from the Graduate School of Industrial Administration at Carnegie-Mellon University.

MACHARG, DENNIS *(NAPM-T-1)* – Mr. MacHarg is the founder of Advance Presort Services, a presort bureau based in Chicago, Illinois. He is also the President of the National Association of Presort Mailers and has served as a director since 1986. He has represented NAPM on the Postal Service's Mailers' Technical Advisory Committee for the past eight years.

MARTIN, JUDITH *(PB-T-1)* – Ms. Martin is the Vice President of Strategic Marketing at Pitney Bowes Inc. She has responsibility for developing, enhancing, and marketing postal-related products and services to customers in the United States and worldwide.

MAYES, VIRGINIA J. *(USPS-T-32)* – Ms. Mayes is an Economist in Pricing and Product Design at the Postal Service. Her work has encompassed a variety of rate issues including, but not limited to, caller service, parcel and expedited mail services, treatment of undeliverable mail, preferred rate mail categories, and revenue foregone

appropriations. She testified before the Commission in Docket Nos. R97-1 and MC97-2. She completed her B.A. in economics and psychology from Washington University in St. Louis, Missouri, and received her M.A. from Brown University.

MAYO, SUSAN W. *(USPS-T-39, RT-22)* – Ms. Mayo, an Economist in Pricing at the Postal Service, received a B.A. in business administration and economics from Catawba College and did some postgraduate work at Marymount University. She provided direct and rebuttal testimony in Docket Nos. MC96-3 and R97-1 and gave technical support in Docket Nos. R87-1, R90-1, and R94-1. She is the project manager for Special Services pricing.

MEEHAN, KAREN *(USPS-T-11)* – Ms. Meehan, an Economist in Cost Attribution, Finance, has been employed by the Postal Service since 1991. Her previous positions include Senior Economist in the Demand Research Division and Principal Operations Research Analyst in the Economic and Analysis Forecasting Group. She holds a B.S. in industrial and systems engineering from the Georgia Institute of Technology and a master's degree in economics from George Washington University.

MERRIMAN, ROGER *(SMC-T-2)* – Mr. Merriman, along with his family, owns and operates Merriman Printing and Publishing, Inc., which publishes the *Farmer and Rancher Exchange*. Mr. Merriman has an extensive background in the farming industry. He is a member of several trade and business associations related to the publishing and shopper industry, local business, and mail advertising, including the Independent Free Papers of America, the Midwest Free Papers Association, the Alliance of Independent Store Owners and Professionals, and the Saturation Mail Coalition.

MILANI LOUIS J. *(ANM-T-2)* – Mr. Milani is Senior Director–Business and Strategic Marketing for Consumers Union, where his responsibilities include managing operating expenses such as paper, printing, and distribution for Consumers Union publications. Consumers Union is an independent nonprofit testing and consumer protection organization.

MILLER, MICHAEL W. *(USPS-T-24, RT-15)* – Mr. Miller has worked in various capacities for the Postal Service since joining it in 1991, including serving as local coordinator for automation programs in San Diego and planning the operations for a new Processing and Distribution Center. Presently, he is an Economist in Special Studies at Postal Service headquarters. Prior to joining the Postal Service, he was an industrial engineer at General Dynamics Space System Division. He received his M.B.A. from San Diego State University.

MOELLER, JOSEPH D. *(USPS-T-35)* – Mr. Moeller, an Economist with the Postal Service's Pricing and Product Design, has also served in Product Management and the Rate Studies Division of the Office of Rates. He presented direct and rebuttal testimony on

behalf of the Postal Service to the Commission in several previous proceedings. He received his B.S. in industrial management and his M.S. in management from Purdue University.

MORROW, WILLIAM A. *(ABM-T-1)* – Mr. Morrow has been Executive Vice President of Operations at Crain Communications, Inc. since 1985. Mr. Morrow earned his B.S. in accounting from the University of Detroit and a J.D. from Wayne State University Law School. He is a licensed CPA and attorney in the State of Michigan. His responsibilities at Crain include, among other things, all financial matters.

MUSGRAVE, GERALD L. *(USPS-T-8)* – Dr. Musgrave is an economist and President of Economics America, Inc., a consulting company in Ann Arbor, Michigan, where he develops econometric models and economic analyses. Widely published in the area of economic analysis and a consultant to the Postal Service on econometric methods and models, competition, and demand markets, he has testified before the Commission in four previous rate cases. He is also the Book Review Editor and General Associate Editor of *Business Economics*. He received his M.A. and Ph.D., both in economics, from Michigan State University.

NAVASKY, VICTOR *(NA-T-1)* – Mr. Navasky is the publisher and editorial director of *The Nation*, America's oldest continuously published weekly magazine. Prior to his employment at *The Nation*, Mr. Navasky was an editor with the *New York Times Magazine* and wrote a monthly column for the *New York Times Book Review*. He is also the author of such books as *Kennedy Justice* and *Naming Names* and was co-editor of an anthology, *The Best of The Nation*. He holds a B.A. from Swarthmore College and is a graduate of Yale Law School.

NEELS, KEVIN *(UPS-T-1, T-3, RT-1, NOI/POIR-T-1)* – Dr. Neels is a vice president at the economic consulting firm of Charles River Associates, where he directs the firm's transportation practice. He has directed and participated in numerous research projects and consulting engagements dealing with issues in transportation economics, with a particular focus on the aviation industry. He holds a Ph.D. and undergraduate degree from Cornell University.

NELSON, MICHAEL A. *(MPA-T-3)* – Mr. Nelson is an independent transportation systems analyst. His consulting work involves developing and applying methodologies based on operations research, microeconomics, statistics, and econometrics to solve specialized analytical problems in the field of transportation. He previously provided testimony before the Commission on behalf of United Parcel Service in Docket Nos. RM86-2B, R87-1, and R90-1 and on behalf of the Postal Service in R97-1. He received his bachelor's degree and two master's degrees from MIT, one in civil engineering and another in management.

O'BRIEN JAMES *(TW-T-2)* – Mr. O'Brien is the Director of Distribution and Postal Affairs for Time, Inc., a division of Time Warner. He has been involved in the manufacturing and distribution of magazines for more than 30 years. He is also Chairman of the Postal Committee for the Magazine Publishers of America, Chairman of the Postal Policy Committee for PostCom, and a member of the PostCom Executive Committee and Board of Directors. He served on the Periodicals Operations Review Team and Mailers' Technical Advisory Committee Package Integrity Task Force.

O'HARA, DONALD J. *(USPS-RT-19)* – Dr. O'Hara is Manager of Classification and Product Development for the Postal Service. He provided testimony on rate and classification issues for First-Class Mail and nonprofit Periodicals in Docket Nos. MC95-1 and MC96-2 and on rate levels in Docket No. R97-1. Prior to moving to the Postal Service's reclassification project, he was a Principal Economist in the Planning Department. His work there included developing and implementing the Postal Service's Total Factor Productivity measurement system. Dr. O'Hara also taught economics at the University of Rochester. He holds a Ph.D. in economics from the University of California at Los Angeles.

O'TORMEY, WALTER *(USPS-ST-42)* – Mr. O'Tormey is the Manager of Processing Operations in Operations Planning and Processing at the Postal Service, where he is responsible for the processing of letter, flats, and packages. He holds a B.S. in business administration from St. Joseph's University in Philadelphia. Since joining the Postal Service in 1966 as a distribution clerk, Mr. O'Tormey has been promoted to various management positions, including Supervisor of Delivery, Branch Manager, Manager of Distribution, Distribution Systems Officer, and Manager, Systems Integration Support. He has been in his current position since 1996.

PAFFORD, BRADLEY V. *(USPS-T-4)* – Mr. Pafford has been a Mathematical Statistician in Revenue, Volume Performance Measurement, in the Finance Division of the Postal Service since 1991. During his time there, he has worked on design issues for improving the Postal Service's statistical information systems. Previously, he was employed by the Department of Agriculture National Agricultural Statistics Service for 11 years. He holds a B.S. and M.S. in forestry from the Virginia Polytechnic Institute and State University and received a master of statistics degree from North Carolina State University.

PATELUNAS, RICHARD *(USPS-ST-44, RT-4)* – Mr. Patelunas, a Financial Analyst with the Postal Service who has testified in six previous Commission dockets, is an expert on the rollforward cost model. Before his assignment to Postal Service Headquarters in 1986, he held the Postal Service craft positions of city carrier, letter sorting machine operator, distribution clerk, and window clerk. He received his M.B.A. from Syracuse University.

PICKETT, JOHN T. *(USPS-T-19, RT-9)* – Mr. Pickett is an Economist in the Cost Attribution office of Finance at Postal Service Headquarters, where he has worked since 1984. He

has testified before the Commission in Docket Nos. R97-1, MC95-1, and C86-3. He received his B.A. and M.A. in economics from Boston University and while teaching at Brown University completed all required course work toward a Ph.D.

PLUNKETT, MICHAEL K. *(USPS-T-36)* – Mr. Plunkett began his career with the Postal Service as a letter carrier in 1984 and was accepted into the Postal Service Management Intern Program in 1990. His assignments as an intern allowed him to travel throughout the country to various headquarters, area, and district offices with work in finance, human resources, operations, and marketing. He currently is an economist in the Pricing Office of Marketing. Mr. Plunkett presented pricing testimony in four previous dockets. He received his M.B.A. from the Wharton School of Business at the University of Pennsylvania.

PRESCOTT, RICHARD L. *(USPS-RT-24, RT-26)* – Mr. Prescott is Manager of Revenue, Volume and Performance Measurement, Statistical Programs, Finance at the Postal Service. He received a B.S. in economics from the State University of New York and an M.S. in agricultural economics from the University of California at Davis. Prior to working for the Postal Service, Mr. Prescott worked at the U.S. Department of Agriculture as an Agricultural Economist.

PRESCOTT, ROGER C. *(E-Stamp-T-2, MOAA-T-1, RT-2, MOAA, et al.-RT-1)* – Mr. Prescott is Executive Vice President of L.E. Peabody & Associates, Inc. As an economic consultant, he has participated in the preparation of studies and reports for railroads, shippers, shipping associations, state governments and other public bodies dealing with transportation and related economic issues. He submitted testimony to the Commission in Docket Nos. R90-1, MC95-1, R97-1, and MC98-1. He received his B.A. in economics from the University of Maine.

RAMAGE, MARK F. *(USPS-T-2)* – Mr. Ramage received a B.S. in mathematics and an M.A. in statistics from the University of Maryland. His current position at the Postal Service, Mathematical Statistician in Cost Systems, Finance, requires him to manage the In-Office Cost System. Previously at the Postal Service, he was employed as Senior Mathematical Statistician and as Senior Operations Research Analyst and worked on statistical issues for the Carrier Cost Systems and for the In-Office Cost System. The Postal Rate Commission and the Bureau of the Census have also employed him as a statistician.

RAYMOND, LLOYD *(USPS-T-13, RT-11)* – Mr. Raymond is the founder, President, and CEO of Resource & Process Metrics, Inc., a management consulting firm specializing in data collection and the development of Engineered Standards. He is a certified machinist and received a B.S. in industrial engineering from Western New England College. His experience includes applying work-measurement systems, developing

time-based planning and scheduling systems, providing data for project/product costing, and making recommendations for methods improvements.

ROBINSON, MAURA *(USPS-T-34)* – Ms. Robinson, an Economist in Pricing for the Postal Service, develops Priority Mail rate design and analyzes postal reform proposals pending before Congress. Prior to joining the Postal Service, Ms. Robinson was a Pricing Analyst for the Baltimore Gas and Electric Company, where she was responsible for preparing analyses supporting the company's gas rate filings with the Maryland Public Service Commission. She holds a B.S. in economics and a B.A. in French from Iowa State University, and an M.A. in economics from the University of Maryland.

ROSENBURG, EDWIN A. *(OCA-T-3, RT-2)* – Mr. Rosenburg is employed as an economist by The National Regulatory Research Institute, which was established by the National Association of Regulatory Utility Commissioners. During his time there, Mr. Rosenburg has authored a number of reports and papers concerning regulatory issues. He has also offered testimony before the Public Utilities Commission of Ohio.

SALLS, MURY *(MMA-T-3)* – Mr. Salls is Executive Vice President of AccuDocs, a document processing company, which mails more than 300 million statements, invoices, and other consumer notices annually. He is also one of the founders and is the current President of Major Mailers Association, a group of mailers that primarily use First-Class Mail. Mr. Salls testified before the Commission in Docket No. MC95-1. He received a B.S. in business administration from the University of Nevada, Reno.

SAPPINGTON, DAVID E.M. *(UPS-T-6)* – Dr. Sappington is the Lanzillotti-McKethan Eminent Scholar in the Warrington College of Business at the University of Florida, as well as the Director of the university's Public Policy Research Center. He earned a B.A. in economics from Haverford College and an M.A. and Ph.D. in economics from Princeton University. His research examines various aspects of industrial organization, with particular emphasis on the design of regulatory policy.

SCHICK, JOSEPH E. *(PostCom, et al.-T-2)* – Mr. Schick is Chairman of the Mailers' Technical Advisory Committee and Director of Postal Affairs at Quad/Graphics Inc. Quad/Graphics is one of the largest printing and distribution companies for magazines, books, parcels, catalogs, and other items related to direct mail marketing. Mr. Schick has more than 15 years experience in Postal Affairs. He testified in Docket No. R97-1 on matters related to drop entry.

SCHROEDER, PATRICIA *(AAP-T-1)* – Ms. Schroeder is the President and CEO of the Association of American Publishers. She served as a member of Congress, representing Colorado in the U.S. House of Representatives, for 24 years. During that time she was a member of the House Post Office and Civil Service Committee and was Chair of the House Select Committee on Children, Youth and Families. She authored

two books: *Champion of the Great American Family* and *24 Years of House Work…and the Place is Still a Mess*. She is a graduate of the University of Minnesota and earned a J.D. from Harvard Law School.

SELLICK, STEPHEN E. *(UPS-T-2, T-4, ST-1)* – Mr. Sellick is a Vice President at PHB Hager Bailly, Inc., an economic and management consulting firm. He has worked on PHB's analytic investigation of Postal Service costing issues and testified before the Commission numerous times since 1990. He has a B.S. in economics from the University of Pennsylvania's Wharton School of Business and an M.A. in public policy studies from the University of Chicago.

SHEKETOFF, EMILY *(ALA-T-1)* – Ms. Sheketoff is the Associate Executive Director of the American Library Association and manager of its Washington office. In that capacity, she directs government relations efforts before Congress and the Executive Branch to fund libraries. She works on initiatives important to the library community, such as youth literacy, public access to government information, First Amendment protection, and intellectual property and copyright issues.

SIWEK, STEPHEN E. *(AAP-T-2, ST-4)* – Mr. Siwek is a principal in the firm Economics Incorporated, which specializes in economic analysis of competitive issues that arise in antitrust reviews of corporate acquisitions, litigation, and regulated industries. He has a B.A. in economics from Boston College and an M.B.A. from George Washington University. He specializes in the economic and financial analysis of telecommunications and other regulated industries, assessment of lost profit damages, and international trade for U.S. industries that depend on copyrights. He has testified on economic and financial issues in more than 60 regulatory proceedings.

SMITH, J. EDWARD, JR. *(OCA-T-4, RT-4)* – Dr. Smith is an econometrician with the Office of the Consumer Advocate. Previously, he held a variety of industrial, academic, consulting, and governmental positions. He received his A.B. in economics from Hamilton College and an M.A. and a Ph.D. in economics from Purdue University. He has testified approximately 20 times before regulatory commissions, most recently before the Postal Rate Commission on mail processing volume variability in Docket No. R97-1.

SMITH, MARC A. *(USPS-T-21)* – Mr. Smith is an Economist in the Postal Service's Cost Attribution group of Finance. He testified in Docket Nos. R97-1, MC95-1, and R90-1 on issues related to mail processing costs. Formerly, he held positions with the Interstate Commerce Commission and the New York Department of Public Service. He received his M.A. in economics from the University of Michigan, where he completed all course requirements toward a Ph.D. in economics.

SMITH, RICHARD *(AISOP-T-1)* – Mr. Smith is the owner of the Buttercup Dairy, a neighborhood, full-service grocery store in Terryville, Long Island, New York. For the

past 20 years Mr. Smith and his business have depended on advertising in a weekly, mailed-shopper to survive an increasingly competitive environment.

STAISLEY, NANCY *(USPS-RT-16)* – Dr. Staisley is a Partner in the PricewaterhouseCoopers Management Consulting Practice in Arlington, Virginia. She is the leader of the firm's Global Postal Industry Team and the client service partner for the firm's projects with the Postal Service. She has more than 15 years of management consulting experience, including market research, performance measurement, strategic change assignments with public sector clients, strategic reviews, benchmarking, and best practice research. She received a B.A. in psychology from Northwestern University and an M.A. and a Ph.D. in psychology from Carleton University.

STAPERT, JOHN *(CRPA-T-1)* – The Rev. Dr. Stapert is the Executive Director of the Associated Church Press. Formerly he served as the editor and publisher of *The Church Herald*, a monthly magazine, and *Perspectives*, a theological journal. He presented testimony before the Commission on five previous occasions and has served as a member of the Postal Service's Mailers' Technical Advisory Committee. He holds an M.Div. from Fuller Theological Seminary and both an M.A. and Ph.D. in psychology from the University of Illinois.

STEVENS, DENNIS P. *(USPS-T-20, RT-14)* – Mr. Stevens, an Economist in Postal Costing at the Postal Service, contributed to the development of postal costs in Docket No. R90-1 and subsequent rate cases. He holds a B.S. in economics from Harvard University and an M.S. in business from Virginia Commonwealth University. Mr. Stevens' previous experience ranges from management in the retail and finance industries to time as an Army pilot.

STRALBERG, HALSTEIN *(TW-T-1, ST-1, RT-1)* – Dr. Stralberg, formerly the Manager of the Operations Research Division at Universal Analytics, Inc., is a consultant for Time Warner on issues related to distribution of magazines through the postal system. His academic background is in mathematics with an M.A. from the University of Oslo (Norway). For more than 25 years he has directed and performed postal-related studies. He has testified before the Commission since 1980. He has also represented Time Warner as a member of the Periodicals Review Team and on the Mailers' Technical Advisory Committee.

STRASSER, RICHARD JR. *(USPS-RT-1)* – Mr. Strasser is Acting Chief Financial Officer and Executive Vice President of the Postal Service. Prior to being appointed to that position, Mr. Strasser was the District Manager of Northern Virginia, where he led a team that continually improved service while satisfying customer demands fueled by rapid commercial development and residential growth. He is a graduate of Seton Hall University with a B.A. in political science and accounting. He also has a master's degree in public administration from the Key Executive Program at American University.

TAUFIQUE, ALTAF H. *(USPS-T-38, RT-25)* – Mr. Taufique, an Economist in Pricing at the Postal Service, appeared before the Commission in several previous proceedings. His testimony in Docket No. MC2000-1 concerned the Postal Service's proposal for an experimental "Ride Along" classification for Periodicals. Prior to joining the Postal Service in 1996, he served as Director, Economic Analysis and Forecasting for Gulf States Utilities Company. A graduate of Karachi University, Pakistan, he received an M.A. in economics from Central Missouri State University in Warrensburg, Missouri and has completed course work toward a Ph.D. in economics at Southern Illinois University.

TAYMAN, WILLIAM P. *(USPS-T-9)* – Mr. Tayman, who joined the Postal Service in 1975, is the Manager, Budget and Financial Analysis for the Postal Service. He was appointed to this position in 1995 and is responsible for the development and administration of national operating budgets. He sponsored testimony in Docket Nos. R87-1, R90-1 and R97-1 concerning the estimation of workers' compensation and retirement costs and the revenue requirement. In 1991 he was selected to attend the Sloan Fellows Program at Stanford University, where he received an M.A. in management.

THOMPSON, PAMELA A. *(OCA-T-9, RT-3)* – Ms. Thompson is a Postal Rate and Classification Specialist in the Commission's Office of the Consumer Advocate. She testified before the Commission in six previous dockets. In Docket No. R97-1, her testimony concentrated on operating the Commission's cost model. Before joining the OCA, she was employed as an Assistant Controller for Chemical Waste Management and as a Staff Business Planner for IBM. She received her M.B.A. from Wright State University in Dayton, Ohio.

THRESS, THOMAS E. *(USPS-T-7, ST-46)* – Mr. Thress is a Vice President of RCF Inc. He is responsible for RCF's forecasting, econometrics, and quantitative analysis activities and was instrumental in the development of the share equation methodology used by the Postal Service since Docket No. MC95-1. He submitted testimony regarding demand equations in Docket No. R97-1. He holds an M.A. in economics from the University of Chicago.

TOLLEY, GEORGE S. *(USPS-T-6)* – Dr. Tolley is a Professor of Economics and former Director of the Center of Urban Studies at the University of Chicago. He is President of RCF Inc., a Chicago, Illinois firm specializing in economic and econometric analyses for policy uses. He is Honorary Editor of the professional journal *Resource and Energy Economics* and has published 16 books and more than 40 articles. He has served as a Deputy Assistant Secretary at the Department of Treasury, advised Cabinet and White House officials on economic policy issues, and participated in congressional hearings and the legislative process. He also has been a consultant on economic policy for a variety of foreign countries, including Australia, where he served as a consultant to the Australia Post on mail volume forecast methodology. Dr. Tolley testified as the volume

witness for the Postal Service in six previous rate cases. He received his M.A. and Ph.D. in economics from the University of Chicago.

TYE, WILLIAM B. *(NAA-T-1)* – Dr. Tye, who received a Ph.D. in economics from Harvard University, is a principal and co-founder of *The Brattle Group*. He has been an economic consultant for more than 20 years, specializing in regulatory and antitrust issues. He has authored or co-authored more than 100 papers and publications, including four books.

UNGER, DENNIS R. *(USPS-ST-43)* – Mr. Unger has a B.S. in marketing from Southern Illinois University and an M.B.A. from Illinois State University. The Postal Service has employed Mr. Unger for 28 years in positions that include MSC Manager/Postmaster at Knoxville, Tennessee; General Manager of the Birmingham, Atlanta Division, and General Manager of Networks in the Southern Region. In his current position, Manager, Operations Support for the Southeast Area, Mr. Unger is responsible for processing, networking, and delivery operations in the states of Florida, Georgia, Alabama, Mississippi, and Tennessee.

VAN-TY-SMITH, ELAINE *(USPS-T-17)* – Ms. Van-Ty-Smith is a Mathematical Statistician for the Postal Service. She received a B.A. in philosophy and languages, and an M.Sc. in mathematical statistics from Ohio State University. She has worked for the Postal Service since 1989. Much of her work has been in support of the Cost and Revenue Analysis (CRA) and mail processing and IOCS-based analyses for rate cases.

WELLS, ROSEMARY *(AAP-T-3)* – Ms. Wells is the author and illustrator of over 60 children's books. In her 30 years as an author, she has won numerous awards for her work in children's literature, including more than 20 American Library Association Notable Book citations, the *New York Times* Book Review Best Illustrated Book of the Year Award, and the *Boston Globe*–Horn Book Award.

WHITE, JOHN *(AAPS-T-1)* – Mr. White is the General Manager of Distribution Systems of Oklahoma. He is also the Executive Director of the Association of Alternate Postal Systems. He has been a member of AAPS since 1991 and served on the Board of Directors for three years with one year as President.

WILLETTE, W. GAIL *(OCA-T-7)* – Ms. Willette served as the Director of the Commission's Office of the Consumer Advocate, where she is still employed, from 1995 to 1999. An Economist with an M.S. from the University of Rhode Island, she has testified on numerous occasions, beginning with Docket No. R80-1, on subjects as diverse as costs avoided by prebarcoded flat mail, the parcel delivery market, and proposals for a Courtesy Envelope Mail (CEM) rate. In 1994 she co-authored a paper on postal economics, which was presented at the Workshop in Postal and Delivery Economics in Hakone, Japan.

WILSON, WILLIAM *(NAA-RT-1)* – Mr. Wilson, Director of Special Projects for the Knight Ridder Company, is a representative of the Newspaper Association of America on the Mailers' Technical Advisory Committee. He was previously the Director of Target Marketing for Knight Ridder, a California-based communications company which owns and operates 31 daily and 22 non-daily newspapers and which also operates a variety of Total Market Coverage and other mail programs.

WITTNEBEL, JON *(PSA-RT-2)* – Mr. Wittnebel is Vice President of Delivery Services at CTC, a large mailer of parcels and one of the primary users of the Postal Service's Parcel Post Destination Delivery Unit (DDU) rates. In his role at CTC, Mr. Wittnebel oversees the company's DDU entry program, as well as procedures for entering parcels at Postal Service delivery units. He is also on the board of the Parcel Shippers Association and has participated on a variety of Mailers' Technical Advisory Committee work groups.

XIE, JENNIFER J. *(USPS-T-1)* – Dr. Xie, a Mathematical Statistician in Cost Systems, Finance, works on statistical design and estimation issues for the Transportation Cost System, Origin-Destination Information System, the Revenue, Pieces and Weight System, and the System for International Revenue and Volume Outbound. She has a B.S. in electrical engineering from Jiangsu Institute of Technology, China, an M.S. in system engineering from Hohai University, China, and a Ph.D. in operations research and applied statistics from George Mason University.

YACOBUCCI, DAVID G. *(USPS-T-25)* – Mr. Yacobucci, an Economist in the Special Services office of the Postal Service, has visited field offices, including air mail facilities, bulk mail centers, processing and distribution centers, and delivery units. He has observed transportation, mail processing, and delivery operations during these visits. Prior to working for the Postal Service, he worked as a consultant at Price Waterhouse. He holds a B.S. and an M.A. in operations research and industrial engineering from Cornell University.

YEZER, ANTHONY M. *(USPS-T-31)* – Mr. Yezer is a Professor of Economics at George Washington University and special consultant to the National Economic Research Associates. He has served as a consultant to many organizations, including agencies of the U.S. government. He has also worked on several sponsored-research projects, *i.e.,* research performed at and by George Washington University but sponsored by external organizations such as the National Science Foundation.

YOUNG, JAMES D. *(USPS-RT-10)* – Mr. Young, who began working for the Postal Service in 1970 as a distribution clerk, is currently Manager, National Mail Transportation Purchasing, where he is responsible for the purchasing and contract management of transportation services, including air, rail, and highway. Throughout his career at the

Postal Service, he has held various staff and management positions in mail processing, transportation operations, and purchasing and materials.

ZARNOWITZ, VICTOR *(USPS-RT-2)* – Dr. Zarnowitz is an Economist working for The Conference Board, a premier worldwide business membership and research network. He is also Professor Emeritus of Economics and Finance in the Graduate School of Business of the University of Chicago and Research Associate at the National Bureau of Economic Research. He is a fellow of the National Association of Business Economists, a fellow of the American Statistical Association, and an honorary member of the Center for International Research on Economic Tendency Surveys. He holds a Ph.D. in economics from the University of Heidelberg (Germany).

ZIMMERMANN, WINFRIED *(PSA-T-1)* – Mr. Zimmermann is Executive Director of Operations for the Swiss Colony, Inc., the oldest specialty mail order food company in the United States. Most of his career has been spent with Encyclopedia Britannica and the Swiss Colony managing their distribution, mailing, and production operations. Mr. Zimmermann is currently serving as Chairman of the Parcel Shippers Association. He has represented the Parcel Shippers Association on the Mailers' Technical Advisory Committee and is now a representative for the National Association of Perishable Shippers.

Revenue Requirement for Test Year with
Proposed Revenues and Costs
($000)

	Rev. USPS 1/ Filing	USPS Response 2/ to Order No. 1294	PRC
Mail and Special Services Revenue	68,971,266	69,333,764	68,742,602
Appropriations	67,093	67,093	67,093
Investment Income	27,200	27,200	27,200
Total Revenues & Operating Receipts	69,065,559	69,428,057	68,836,895
Postmasters	1,868,893	1,832,358	1,832,931
Supervisors	3,810,452	3,820,242	3,731,332
Clerks & Mailhandlers, CAG A-J	19,375,248	19,367,677	19,396,438
Clerks, CAG K	9,639	8,550	8,553
City Delivery Carriers, In-Office	3,980,848	4,013,339	4,025,547
City Delivery Carriers, Street Time	9,691,072	9,563,189	9,573,264
Vehicle Service Drivers	529,218	545,776	545,147
Special Delivery Messengers	-	-	-
Rural Carriers	4,374,194	4,473,308	4,480,906
Custodial Maintenance Service	2,780,118	2,788,468	2,791,084
Motor Vehicle Service	722,386	736,333	736,284
Miscellaneous Operating Costs	327,831	361,216	361,245
Transportation	4,557,386	4,643,299	4,649,011
Building Occupancy	1,633,711	1,582,652	1,583,093
Supplies & Services	3,795,056	4,057,175	4,058,647
Research & Development	45,342	45,342	45,342
Administration & Regional Operations	5,767,208	5,883,505	5,885,562
General Management Systems	48,522	52,495	52,495
Depreciation & Servicewide Costs	4,150,035	4,205,410	4,222,837
Final Adjustments	(385,099)	(355,468)	(484,706)
Field Reserve 3/		200,000	
Total Accrued Costs	67,082,060	67,824,866	67,495,012
Contingency	1,677,052	1,695,622	1,012,425
Recovery of Prior Years Losses	268,257	311,709	311,709
Total Revenue Requirement	69,027,369	69,832,197	68,819,146
Net Surplus (Deficiency)	38,191	(404,140)	17,749

/1 Revenues and RPYL: USPS Exh. 32B, Revised 4/21/00 Accrued Costs: USPS Exhibit 14L, adjusted for Revision to 1st Class Single
      Final Adjustment, USPS-T-33 Workpaper at 8, revised 4/17/00 Contingency: 2.5% of Total Accrued Costs
2/ Revenues: Response to POIR 16, revised 8/3/00 adjusted for PRC Corrections as presented in PRC LR-3
      Accrued Costs: USPS Exh. 44W as adjusted for corrections to USPS cost rollforward. See Appendix D at 2-4.
      Final Adjustments: USPS LR-I-483. ; RPYL: USPS ST-44 at 8 Contingency: 2.5% of Total Accrued Costs
3/ Response to POIR 14, question 2(b), revised 8/11/00

DEVELOPMENT OF REVENUE REQUIREMENT
AND COST ROLLFORWARD ADJUSTMENTS

Introduction. The purpose of this appendix is to explain the various adjustments made by the Commission to the Postal Service's test year revenue requirement estimate as presented in the Postal Service's response to Commission Order No. 1294. The Commission took account of two general types of changes: (1) correction of errors; and (2) adjustment of the Postal Service's estimates for known and certain events occurring after the filing of the Postal Service's response to Order No. 1294.

Since the filing of the updated revenue requirement in July 2000 there has only been one event that has occurred to affect estimates of test year accrued costs. Slightly higher than anticipated inflation has affected the estimates of personnel compensation and related benefits. The higher actual inflation also affect indirect benefit costs such as repriced annual leave and also affect the estimates for cost reduction programs and other program cost effects.

Additionally, the Commission made adjustments to the cost rollforward to correct errors in the rollforward process and to implement Commission cost attribution methodologies. Corrections were also made to the Postal Service volume estimation models that had an effect on the estimate of accrued costs.

The Commission's revenue requirement adjustments were implemented using the Postal Service revenue requirement models filed as USPS LR-I-127 and as updated by the Postal Service in USPS LR-I-421. Implementation of the Commission's cost methodologies, corrections to the Postal Service rollforward, and implementations of the Commission's revenue requirement adjustments were made using the Commission's cost rollforward model, PRC LR-4.

1. Corrections to Volumes, Revenues, and USPS Costs

   The Postal Service's updated revenue requirement estimated test year after rate revenues of $69.275 billion, a total revenue requirement of $69.645 billion and a net revenue deficiency of $275 million. Subsequent to this filing the Postal Service noted that the revenue deficiency should be increased by $200 million to reflect a "field reserve" against the "breakthrough productivity initiative" cost reductions included in the Order No. 1294 update filing. Additionally, new a revenue estimate of $69.378 was provided in response to P.O. Information Request No. 16 based on "hybrid" billing determinants consisting of quarters 3 and 4 of FY 1999 and quarters 1 and 2 of FY 2000. No update revisions were made to volume estimates for the test year.

   a. Corrections of USPS Volume and Revenue Estimates

   As the Commission reviewed the Postal Service estimation models for volumes and revenues, some errors were detected. Correcting for the estimated volumes had the effect of changing the estimated revenues for the test year at the Postal Service's proposed rates. In addition, other errors were found in the calculation of revenues for various rate categories. Using the Commission corrected volumes, with the Postal Service test year after rates proposed average revenue, total estimated revenue increases $49.6 million. The calculation of the corrected revenues can be found in PRC LR-3.

   The volume corrections also affected the estimated test year after rate costs. Substituting the correct volumes in the cost rollforward model increased costs less than $1.0 million.

   b. Corrections of USPS Errors in the Rollforward Process

   As the Commission attempted to replicate the Postal service cost rollforward process several errors were detected. Three of the errors were significant in terms of costs

attributed to the classes and subclasses of mail and the test year accrued costs. Others had a much less significant affect.

  (1) Error in Cost Reduction Distribution Keys

    USPS supplemental witness Patelunas describes the process by which the mail processing cost reductions are distributed to classes and subclasses of mail. USPS Library Reference I-408 shows the workhour changes for each individual cost reduction program and the distribution keys and variability percentages used in the cost rollforward model to distribute the cost reduction to class and services of mail. An examination of the tables in Library Reference I-408 show that the FY 1999 cost reduction programs distribution keys, components 1439 through 1453 have apparently been adjusted for the elimination of Standard A Single Piece costs twice. The table below shows two examples of cost reduction distribution keys where it appears that the Standard A Single Piece cost adjustment was taken twice.

Table D-1
Comparison of Base Year Cost Reduction Distribution Keys

	FY99by.i	FY99by.a	Difference by.i vs. by.a	FY99tcm.b	Difference tcm.b vs. by.a
Component 1439 - CFS Space Key					
1st Class Single Piece	75,462	76,673	1,211	77,884	1,211
Priority Mail	1,390	1,454	64	1,518	64
Std. A Single Piece	1,275	-	(1,275)	(1,275)	(1,275)
Component 1440 - MPBCS Key					
1st Class Single Piece	162,116	162,487	371	162,858	371
Priority Mail	107	127	20	147	20
Std. A Single Piece	390	0	(390)	(390)	(390)

    The Commission has corrected this error by inserting the components 1439 through 1453 from the manual input *fy99by.i* file in Library Reference I-406 and adjusted for the Standard A Single Piece elimination only once. Schedule D-1, Part 1 compares the

Postal Service and the PRC distributions of mail processing cost reductions for FY 2000, the Test Year Before Rates, and the Test Year After Rates. Schedule D-1, Part 2 compares the Postal Service distribution keys and the PRC corrected distribution keys used in the rollforward model.

The Postal Service, as part of the response to Order No. 1294, included a cost reduction of $23.2 million for function 4 window improvement. This cost reduction was to be applied to cost segment 3 window service costs. This cost reduction was to be distributed to subclass and service using component 1442 (PRC component 2178), the Mail Processing Function 4 key. Using this distribution key would cause cost reductions to be applied to Periodicals Within County and Classroom, however there are no window service costs associated with segment 3 window service. In order to avoid distributing cost reductions to subclasses where there are no costs, the Commission created a new distribution key, PRC component 2198. This component is the Mail Processing Function 4 distribution key with costs associated with Periodicals within county and classroom and Free for the Blind & Handicapped removed from the key. Schedule D-2 shows the development of the Commission's window service Function 4 improvement distribution key.

(2) Alaskan Air Adjustment

The rollforward process in the Postal Service's original filing treated component 681, Alaskan Air Transportation, as 100% variable then applied adjustment factors from Library Reference I-59 in the development of the B report separately for each fiscal year in the rollforward. The updated rollforward provided by supplemental witness Patelunas started with the Alaskan Air component, component 681, which already included the FY 1999 adjustment. The adjusted component was then rolled forward to the test year from FY 1999 rather than rolling forward the component as 100% variable and then adjusting the component in the B report.

The Postal Service was asked in Presiding Officer's Information Request No. 21, question 3 whether this was a change in methodology from the original filing. Witness

Patelunas responded that the treatment is different from the original filing. He noted that the Alaskan Air costs were adjusted before they were entered into the cost model and that since the component was already adjusted there was no need to adjust the costs further in the rollforward to the test year. He also said that even if the treatment of Alaskan Air transportation in the updated rollforward was consistent with the original filing the differences for class, subclass, and service is minor.

The Commission has used the same process for the Alaskan Air transportation costs as was used in the original filing. That is to roll forward the costs of Alaskan Air at 010% variable and then adjusting the costs in the Commission's PESSA cost factor file for each fiscal year separately. The effect of this adjustment is to increase accrued costs approximately $16 million.

(3) Other Corrections

The Commission has corrected other errors acknowledged by the Postal Service. These corrections are:

- Use of correct before rates periodicals volumes in the rollforward mail volume effect, as per Postal Service Library Reference I-459.

- Correction of the mail volume effect for component 30, Higher Level Supervisors as per Presiding Officer's Information Request No. 6, question 2.

- Correction of the extra mail volume effect for component 1453 – Parcel Sorting and NMO Machine cost reductions distribution key. The same error was noted in the original filing for component 907 – CFS Space key in Presiding Officer's Information Request No. 10, question 1.

In summary, the volume and revenue corrections increase test year revenues at Postal Service proposed rates by $49.6 million. The volume corrections and corrections to the rollforward process will increase the overall revenue requirement by $21.5 million. This results in a net decrease in the estimated net revenue deficiency in the Postal Service's updated filing of $28.1 million.

2.   Adjustments to USPS Compensation and Benefits

     The Postal Service's estimates for employee compensation and benefits are
influenced by: (1) assumptions regarding the results of labor negotiations or arbitrated
settlements, (2) increases in the consumer price index, (3) management decisions
regarding wage changes for nonbargaining employees, and (4) changes in the cost or
structure of employee benefits. As noted above higher than estimated inflation directly
affected compensation and benefits costs for the test year. As in prior cases, the
methodology utilized by the Commission to calculate the unit labor cost changes and
labor-related cost changes are the same as that employed by the Postal Service. PRC
LR-2 contains comparable tables and unit cost schedules to those shown in USPS
LR-I-127 and USPS LR-I-421.

     a.   Adjustments Due to CPI-W Actual Results

     The Postal Service uses estimates of the Earners and Clerical Workers (CPI-W),
based on the Data Resources, Inc. (DRI) Trendlog. The estimate for the July, 2000
CPI-W index was 504.1. Subsequent to the filing of the update, the actual CPI-W index
for July was released by the Department of Labor. The actual index, 504.7, was higher
than the estimate used by the Postal Service. The following table compares the actual
CPI indices and the COLA payments made, with those estimated by the Postal Service
for the period of the base year through the test year.

Table D-2
Cumulative COLA Data FY 1999 - 2001

	CPI-W		Cents per Hour		Cost per Workyear	
	Actual	USPS Est.	Actual	USPS Est.	Actual	USPS Est.
January, 1999	479.70	479.70	$ 0.03	$ 0.03	$ 62.00	$ 62.00
July, 1999	486.30	486.30	0.19	0.19	395.00	395.00
January, 2000	492.90	492.90	0.36	0.36	749.00	749.00
July, 2000	504.70	504.10	0.65	0.64	1,352.00	1,331.00
January, 2001 est.	509.35	508.20	0.77	0.74	1,602.00	1,539.00
July, 2001 est.	515.83	514.60	0.93	0.90	1,934.00	1,872.00

The last two estimated COLAs, based on the January, 2001 and July, 2001 CPI-W index were recalculated in order to maintain the same rate of inflation between the last actual CPI-W index, September, 2000 and the next COLA trigger date, July, 2001. This resulted in a higher than estimated COLA increment for March 2001 than originally projected by the Postal Service. Table D-2 shows that the COLA is higher by $62 per workyear. The effect of adjusting the COLA is to increase costs by $20.3 million. This increase is partly offset by a decrease in the net pay change assumption discussed in the following section. Labor related accrued costs for Repriced Annual Leave, Premium and Benefit rollup costs, and the Workyear Mix Adjustment will increase as a result of this adjustment. Also, the payment to the Civil Service Retirement Fund Deficit (CSRFD) will increase.

b.   Net Pay Change (ECI Assumption)

The Postal Service uses the assumption that total wage increases under a new labor contract for FY 2001 will be equal to the rise in the Department of Labor Employment Cost Index (ECI). The change in COLA decreases the amount of the net pay change for each craft in the test year. Table D-3 shows the amount of the net wage change by craft. The calculation of the net wage change follows the same format as in USPS LR-I-421.

The decrease in the estimated net pay change will result in a decrease in accrued costs for the test year of approximately $9 million.

Table D-3
ECI New Wage Growth - FY 2001

Craft	PRC ECI New FY 2001 Growth	USPS ECI New FY 2001 Growth	Difference
Clerks, CAG A-J	$ 1,084.93	$ 1,107.58	$ (22.65)
Mailhandlers	986.73	1,009.39	(22.66)
Rural Carriers	1,069.65	1,092.31	(22.66)
RCR/RCA	565.48	588.21	(22.73)
All Other Barg.	1,102.92	1,125.58	(22.66)

c.   Annuitant COLA

The Postal Service estimates the increase in annuitant COLA costs based on the total annuitant population reflected in the most recent OPM billing, demographic rates provided by OPM, and forecasted increases in the calendar year third quarter CPI-W.

As noted above, the actual increases in the CPI-W were more than what the Postal Service originally forecasted. When the actual increases in the CPI-W for the third quarter of FY 2000 are used and the third quarter CPI-W indices for FY 2001 are recalculated to maintain the same rate of inflation as projected by the Postal Service the annuitant COLA costs increase $1.7 million.

d.   Adjustments to Cost Reductions and Other Programs Cost Effect

The Postal Service has numerous programs and projects designed to produce cost savings in the interim year and the test year. Savings to the Postal Service from these programs are estimated to be approximately $905 million in FY 2000 and $1,119 million in the test year. Many of the cost reductions are based on estimates of workhour savings by craft from the implementation of the programs priced out at the estimated productive

hourly wage rate for the particular craft. The effect of the Commission's adjustments to compensation and benefits will increase the savings associated with these cost reduction programs by $0.3 million.

e. Summary

The Commission's adjustments to compensation and benefit cost estimates through the test year increase the Postal Service's estimated compensation and benefits and other personnel related test year expenses by approximately $17.5 million. The following table summarizes the Commission's adjustments to compensation and benefits cost level, cost reductions, and other programs cost effects for FY 2000 and the test year.

Table D-4
Summary of PRC Adjustments to
Personnel Compensation and Benefits Estimates

	FY 2000	Test Year
	(millions)	
Compensation and Benefits	$ 1.2	$ 13.5
Cost Reductions	-	(0.3)
Other Programs	2.0	1.1

3. Other Revenue Requirement Adjustments

a. DMA Adjustment to Supervisor Cost Reductions

Direct Marketing Association (DMA) witness Buc proposed a reduction of $93 million for supervisors costs for mail processing and city delivery carriers. This proposal was also included in this witness' testimony in R97-1 and accepted by the Commission in the Docket No. R97-1 Opinion. PRC Op. R97-1, para. 2152-57.

Schedule D-3 shows the calculation of the cost adjustment. The Commission's calculation has been refined to target the supervision components for mail processing and city carriers. However, the calculations are basically the same as was developed in Docket No. R97-1. The adjustment reduces FY 2000 supervisor costs $21.7 million and test year supervisor costs $72.6 million.

b.   Bundle Breakage Cost Reduction

As part of the "Breakthrough Productivity" initiatives included in the Order No. 1294 update, the Postal Service has a cost reduction program intended to improve the way flats bundles are handled and reduce the occurrence of breakage of the bundles which leads to more manual processing of flat mail. The Postal Service has estimated cost savings of $20.3 million representing a reduction of 25% of the occurrence of bundle breakage. MPA witness Glick proposed to increase that reduction of bundle breakage occurrences to 50% and save an additional $67.3 million. MPA-T-2 at 24. The Commission has accepted witness Glick's proposal to increase the bundle breakage reduction to 50% and increases the cost savings from the $20.3 million proposed by the Postal Service to $51.8 million. A discussion on the calculation of the Commission's bundle breakage cost reduction is found in the Periodicals section. *Cite.*

The Commission's treatment of the cost reduction for bundle breakage in the cost rollforward is the same as the Postal Service's. The cost savings for each subclass affected is calculated outside the rollforward model. A distribution key is developed based on the relative proportion of the total savings each subclass receives. The distribution is entered into the model and the total cost savings is included in the test year factor files in the cost reductions cost effect.

Schedule D-4 shows the calculation of the Commission's bundle breakage distribution key.

c. Interest Expense

The Postal Service's total long term debt and average debt balances are determined by the financing needs of operating the business and investment in capital expenditures. The average debt balance is influenced by the cash flows during the year which in turn are affected by the net income or loss generated by the Postal Service. Changes made by the Commission in the revenue requirement and cost attribution methodology has changed the amounts of the net income or loss originally estimated by the Postal Service for FY 2000, test year before rates and the test year after rates. Postal Service Library Reference I-127 contains worksheets used to calculate the net interest expense from the base year to the test year. Utilizing these worksheets the Commission has increased the interest on debt by $16.4 million in the test year after rates.

d. Final Adjustments

The Postal Service has computed final adjustments for each year of the rollforward to estimate the cost affects of the changes in mail mix within subclasses from the base year to the test year. USPS-T-28 at 31. These final adjustments are calculated for FY 2000, the test year before rates, and the test year after rates. Commission changes in cost methodology caused changes in the unit costs that are used to estimate the cost effect due to mail mix changes within a subclass. The Commission has utilized the worksheets provided by the Postal Service in Library References I-419, I-420, I-429, and I-430 to develop the final adjustments that are reflective of the Commission's cost methodology and volume changes due to corrections and the proposed rates. These Library References were updated further in Library References I-483 and I-484 for changes in estimated volumes using the hybrid billing determinants.

Adjusting for Commission changes in cost attribution methodology and volumes increased the final adjustment for the test year after rates from $(380.6) million to $(512.6) million.

4.   Commission Attributable Cost and Revenue Requirement Changes

For the purpose of developing the Commission's test year attributable costs and revenue requirement, changes were made to the rollforward factor files and the base year cost matrix. These changes implemented the following Commission adjustments to costs and volumes:

- Adjustments to FY 2000 and the test year cost level factors, cost reductions programs, other programs, and the workyear mix adjustment.

- Corrections to USPS rollforward for errors, discussed above.

- Attribution changes in cost segments 3,7,10, and 14. Also adjustment of the base year for the inclusion of product specific costs in cost segments 15, 16, 18, and 20.

- Adjustment of base year, FY 2000, test year before rates, and test year after rates volumes.

The adjusted cost level factors, cost reductions programs, and other programs factors noted in item 1 are shown in the factor files *fy2000r.fac, fy00mixr.fac, fy01brr.fac, fy01arr.fac, tybrmixr.fac, and tyarmixr.fac.* Corrections to the Postal Service rollforward were either keypunched directly into the Commission's manual input cost matrix with the program ***prcedit.exe*** or the appropriate factor files were edited. The direct cost component and distribution key adjustments noted in item 3 were calculated and keypunched directly into the Commission's manual input cost matrix with the program ***prcedit.exe*** or taken into account in the rollforward factor files; the indirect cost changes resulting from these changes were calculated using the "byrip" option of the cost model program. Volume corrections for the base year, FY 2000, and the test year before rates were entered into the base year cost matrix using ***prcedit.exe***. Test year after rates volumes resulting from the Commissions proposed rates were entered into the FY 2000 cost matrix using ***prcedit.exe***. The Commission's final adjustments were computed separately and applied to the attributable and accrued costs.

5. Summary

The Commission has made adjustments to Postal Service costs which reduce the total test year after rates accrued costs by $150.8 million and increase test year attributable costs by $2,469.8 million.

Schedule D-1, Part 1
Comparison of Mail Processing Cost Reductions
FY 2000- TYAR

		FY 2000 Cost Reduc.			TYBR Cost Reduc.			TYAR Cost Reduc.		
		USPS	PRC	Difference	USPS	PRC	Difference	USPS	PRC	Difference
First-Class Mail:										
Single-Piece Letters	101	(162,626)	(162,387)	239	(276,989)	(260,090)	16,899	(279,011)	(262,036)	16,975
Presort Letters	102	(45,704)	(45,736)	(32)	(65,441)	(69,169)	(3,728)	(66,196)	(69,978)	(3,783)
Total Letters	103	(208,330)	(208,123)	207	(342,430)	(329,259)	13,171	(345,207)	(332,015)	13,192
Single-Piece Cards	104	(4,654)	(4,656)	(3)	(7,815)	(7,832)	(17)	(7,686)	(7,699)	(13)
Presort Cards	105	(805)	(806)	(0)	(1,552)	(2,081)	(529)	(1,534)	(2,062)	(528)
Total First	109	(213,789)	(213,585)	204	(351,797)	(339,172)	12,626	(354,427)	(341,776)	12,651
Priority Mail	110	(14,906)	(14,901)	5	(20,094)	(20,119)	(25)	(18,985)	(19,013)	(28)
Express Mail	111	(1,496)	(1,497)	(0)	(1,268)	(1,487)	(218)	(1,307)	(1,531)	(224)
Mailgrams	112	(4)	(4)	(0)	(8)	(8)	0	(8)	(8)	0
Periodicals:										
In County	113	(378)	(379)	(1)	(1,368)	(1,427)	(59)	(1,379)	(1,437)	(58)
Outside County:										
Reg Rate Pub	117	(16,242)	(15,991)	251	(60,157)	(61,015)	(858)	(59,954)	(61,512)	(1,559)
Nonprofit Pub	118	(2,260)	(2,412)	(152)	(10,860)	(11,549)	(689)	(11,223)	(11,540)	(317)
Classroom Pub	119	(140)	(141)	(1)	(410)	(425)	(15)	(411)	(424)	(13)
Total Periodicals	123	(19,021)	(18,924)	97	(72,795)	(74,416)	(1,621)	(72,966)	(74,914)	(1,947)
Standard Mail (A):										
Single Piece Rate	125	0	0	0	0	0	0	0	0	0
Commercial Standard:										
Enhanced Carr Rte	126	(9,203)	(9,218)	(15)	(14,940)	(15,858)	(919)	(14,856)	(15,760)	(903)
Regular	127	(67,633)	(67,745)	(112)	(145,424)	(151,659)	(6,235)	(142,436)	(148,429)	(5,992)
Total Commercial	128	(76,836)	(76,963)	(127)	(160,364)	(167,517)	(7,153)	(157,292)	(164,188)	(6,896)
Aggregate Nonprofit:										
Enhanced Carr Rte	131	(1,744)	(1,746)	(2)	(2,619)	(2,737)	(118)	(2,612)	(2,729)	(117)
Nonprofit	132	(12,838)	(12,854)	(16)	(24,122)	(25,070)	(948)	(24,311)	(25,258)	(947)
Total Aggregate Nonprof	133	(14,582)	(14,600)	(18)	(26,741)	(27,807)	(1,066)	(26,923)	(27,987)	(1,064)
Total Standard (A)	135	(91,418)	(91,563)	(145)	(187,105)	(195,325)	(8,219)	(184,215)	(192,175)	(7,960)
Standard Mail (B):										
Parcels Zone Rate	136	(3,906)	(3,909)	(3)	(1,682)	(2,436)	(753)	(1,693)	(2,454)	(761)
Bound Prnt Matter	137	(2,415)	(2,418)	(3)	(2,442)	(2,886)	(444)	(2,415)	(2,853)	(438)
Special Standard	139	(1,648)	(1,650)	(1)	(1,030)	(1,295)	(266)	(1,035)	(1,302)	(268)
Library Mail	140	(271)	(271)	(0)	(255)	(300)	(45)	(255)	(300)	(44)
Total Standard (B)	141	(8,240)	(8,247)	(7)	(5,409)	(6,917)	(1,507)	(5,399)	(6,910)	(1,511)
U S Postal Service	142	(2,055)	(2,057)	(2)	(2,525)	(2,874)	(349)	(2,563)	(2,917)	(354)
Free Mail--Blind & Hndc & Servicemen	147	(359)	(360)	(1)	(249)	(286)	(37)	(253)	(291)	(38)
Internationl Mail	161	(9,458)	(9,468)	(10)	(8,862)	(9,104)	(241)	(8,708)	(8,944)	(236)
Special Services:										
Registry	163	(559)	(559)	(0)	(555)	(588)	(33)	(534)	(566)	(32)
Certified	164	(422)	(422)	(0)	(345)	(595)	(250)	(326)	(563)	(237)
Insurance	165	(29)	(29)	(0)	(13)	(28)	(15)	(13)	(28)	(15)
COD	166	(20)	(20)	(0)	(12)	(16)	(4)	(12)	(16)	(4)
Special Delivery	167	0	0	0	0	0	0	0	0	0
Money Orders	168	(44)	(44)	0	(10)	(41)	(31)	(10)	(40)	(30)
Stamped Cards	159	0	0	0	0	0	0	0	0	0
Stamped Envelopes	169	(1)	(1)	(0)	(0)	(1)	(1)	(0)	(1)	(1)
Special Handling	170	(13)	(13)	(0)	(117)	(117)	(0)	(118)	(118)	(0)
Post Office Box	171	(32)	(32)	0	(7)	(30)	(23)	(7)	(30)	(23)
Other	172	(748)	(749)	(1)	(1,886)	(2,043)	(157)	(1,910)	(2,070)	(160)
Total Spc Svcs	173	(1,867)	(1,868)	(1)	(2,945)	(3,458)	(513)	(2,931)	(3,432)	(501)
Total Volume Variable	198	(362,612)	(362,473)	139	(653,058)	(653,165)	(107)	(651,762)	(651,910)	(148)
Other	199	(55,637)	(55,771)	(134)	(92,227)	(92,122)	105	(93,523)	(93,377)	146

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		Component 1439		Component 1440		Component 1441		Component 1442	
		USPS	PRC	USPS	PRC	USPS	PRC	USPS	PRC
First-Class Mail:									
Single-Piece Letters	101	77,884	76,673	162,858	162,487	156,906	156,522	15,316	1,414,376
Presort Letters	102	51,646	51,646	62,511	62,511	93,933	93,933	0	496,008
Total Letters	103	129,530	128,319	225,369	224,998	250,839	250,455	15,316	1,910,384
Single-Piece Cards	104	4,300	4,300	3,665	3,665	4,398	4,398	0	55,254
Presort Cards	105	1,483	1,483	1,773	1,773	1,442	1,442	0	14,724
Total First	109	135,313	134,102	230,807	230,436	256,679	256,295	15,316	1,980,362
Priority Mail	110	1,518	1,454	147	127	40	20	806	207,107
Express Mail	111	137	137	0	0	0	0	0	46,455
Mailgrams	112	0	0	0	0	0	0	0	0
Periodicals:									
In County	113	321	321	1	1	0	0	0	9,664
Outside County:									
Reg Rate Pub	117	16,294	16,294	1,325	1,325	304	304	0	203,339
Nonprofit Pub	118	4,338	4,338	141	141	201	201	0	37,078
Classroom Pub	119	56	56	56	56	0	0	0	966
Total Periodicals	123	21,009	21,009	1,523	1,523	505	505	0	251,047
Standard Mail (A):									
Single Piece Rate	125	(1,275)	0	(390)	0	(404)	0	(16,122)	0
Commercial Standard:									
Enhanced Carr Rte	126	1,289	1,289	5,121	5,121	6,543	6,543	0	148,960
Regular	127	14,152	14,152	47,107	47,107	52,398	52,398	0	651,901
Total Commercial	128	15,441	15,441	52,228	52,228	58,941	58,941	0	800,861
Aggregate Nonprofit:									
Enhanced Carr Rte	131	282	282	1,535	1,535	2,245	2,245	0	15,344
Nonprofit	132	3,195	3,195	11,970	11,970	15,600	15,600	0	113,226
Total Aggregate Nonprof	133	3,477	3,477	13,505	13,505	17,845	17,845	0	128,570
Total Standard (A)	135	17,643	18,918	65,343	65,733	76,382	76,786	(16,122)	929,431
Standard Mail (B):									
Parcels Zone Rate	136	115	115	111	111	0	0	0	49,623
Bound Prnt Matter	137	1,226	1,226	12	12	0	0	0	28,822
Special Standard	139	526	526	103	103	63	63	0	19,899
Library Mail	140	0	0	0	0	0	0	0	4,070
Total Standard (B)	141	1,867	1,867	226	226	63	63	0	102,414
US Postal Service	142	9,250	9,250	903	903	459	459	0	47,150
Free Mail--Blind & Hndc & Servicemen	147	0	0	0	0	0	0	0	1,737
Internationl Mail	161	801	801	4,156	4,156	2,626	2,626	0	14,596
Special Services:									
Registry	163	53	53	0	0	0	0	0	19,368
Certified	164	0	0	0	0	0	0	0	40,609
Insurance	165	0	0	0	0	0	0	0	2,532
COD	166	0	0	0	0	0	0	0	2,358
Special Delivery	167	0	0	0	0	0	0	0	0
Money Orders	168	0	0	0	0	0	0	0	0
Stamped Cards	159	0	0	0	0	0	0	0	0
Stamped Envelopes	169	0	0	0	0	0	0	0	0
Special Handling	170	0	0	0	0	0	0	0	0
Post Office Box	171	0	0	0	0	0	0	0	0
Other	172	8,397	8,397	434	434	176	176	0	48,836
Total Spc Svcs	173	8,450	8,450	434	434	176	176	0	113,703
Total Volume Variable	198	195,988	195,988	303,539	303,538	336,930	336,930	0	3,694,002
Other	199	4,817	735	34,939	907	38,593	1,007	0	0

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		Component 1443		Component 1444		Component 1445		Component 1446	
		USPS	PRC	USPS	PRC	USPS	PRC	USPS	PRC
First-Class Mail:									
Single-Piece Letters	101	52,155	52,117	7,693	7,693	28,258	27,674	42,834	42,786
Presort Letters	102	1,109	1,109	91	91	2,353	2,353	8,694	8,694
Total Letters	103	53,264	53,226	7,784	7,784	30,611	30,027	51,528	51,480
Single-Piece Cards	104	1,495	1,495	224	224	0	0	1,355	1,355
Presort Cards	105	0	0	0	0	0	0	54	54
Total First	109	54,759	54,721	8,008	8,008	30,611	30,027	52,937	52,889
Priority Mail	110	52	50	71	71	11,165	11,134	67	66
Express Mail	111	0	0	0	0	0	0	0	0
Mailgrams	112	0	0	0	0	0	0	0	0
Periodicals:									
In County	113	0	0	0	0	2	2	0	0
Outside County:									
Reg Rate Pub	117	61	61	124	124	12,889	12,889	0	0
Nonprofit Pub	118	0	0	94	94	1,393	1,393	44	44
Classroom Pub	119	0	0	0	0	149	149	0	0
Total Periodica	123	61	61	218	218	14,433	14,433	44	44
Standard Mail (A):									
Single Piece Rate	125	(40)	0	0	0	(615)	0	(50)	0
Commercial Standard:									
Enhanced Carr	126	0	0	0	0	10,391	10,391	481	481
Regular	127	552	552	550	550	58,659	58,659	4,198	4,198
Total Commercial	128	552	552	550	550	69,050	69,050	4,679	4,679
Aggregate Nonprofit:									
Enhanced Carr	131	51	51	0	0	782	782	364	364
Nonprofit	132	0	0	84	84	7,613	7,613	1,475	1,475
Total Aggregate Non	133	51	51	84	84	8,395	8,395	1,839	1,839
Total Standard	135	563	603	634	634	76,830	77,445	6,468	6,518
Standard Mail (B):									
Parcels Zone Rate	136	0	0	101	101	2,740	2,740	0	0
Bound Prnt Matter	137	0	0	0	0	2,891	2,891	0	0
Special Standard	139	0	0	0	0	1,253	1,253	0	0
Library Mail	140	0	0	0	0	279	279	0	0
Total Standard	141	0	0	101	101	7,163	7,163	0	0
U S Postal Service	142	248	248	0	0	1,238	1,238	103	103
Free Mail--Blind & Hndc & Servicemen	147	59	59	0	0	921	921	0	0
Internationl Mail	161	454	454	148	148	6,664	6,664	2,103	2,103
Special Services:									
Registry	163	0	0	0	0	22	22	0	0
Certified	164	0	0	0	0	0	0	0	0
Insurance	165	0	0	0	0	0	0	0	0
COD	166	0	0	0	0	0	0	0	0
Special Delivery	167	0	0	0	0	0	0	0	0
Money Orders	168	0	0	0	0	0	0	0	0
Stamped Cards	159	0	0	0	0	0	0	0	0
Stamped Envelopes	169	0	0	0	0	0	0	0	0
Special Handling	170	0	0	0	0	0	0	0	0
Post Office Box	171	0	0	0	0	0	0	0	0
Other	172	1,028	1,028	0	0	0	0	0	0
Total Spc Svcs	173	1,028	1,028	0	0	22	22	0	0
Total Volume Variable	198	57,224	57,224	9,180	9,180	149,047	149,047	61,722	61,723
Other	199	47,428	556	7,555	89	63,488	619	(305)	0

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		Component 1447		Component 1448		Component 1449		Component 1450	
		USPS	PRC	USPS	PRC	USPS	PRC	USPS	PRC
First-Class Mail:									
Single-Piece Letters	101	1,040,044	1,038,360	248,451	246,690	93,465	93,242	3,338	2,244
Presort Letters	102	245,316	245,316	23,919	23,919	25,019	25,019	212	212
Total Letters	103	1,285,360	1,283,676	272,370	270,609	118,484	118,261	3,550	2,456
Single-Piece Cards	104	69,545	69,545	181	181	4,091	4,091	102	102
Presort Cards	105	13,867	13,867	0	0	405	405	0	0
Total First	109	1,368,772	1,367,088	272,551	270,790	122,980	122,757	3,652	2,558
Priority Mail	110	2,931	2,842	25,925	25,832	24	12	1,521	1,463
Express Mail	111	248	248	847	847	0	0	0	0
Mailgrams	112	109	109	0	0	0	0	46	46
Periodicals:									
In County	113	817	817	3,980	3,980	0	0	30	30
Outside County:									
Reg Rate Pub	117	10,705	10,705	122,092	122,092	71	71	7,668	7,668
Nonprofit Pub	118	1,749	1,749	16,616	16,616	0	0	1,743	1,743
Classroom Pub	119	0	0	1,057	1,057	0	0	166	166
Total Periodicals	123	13,271	13,271	143,745	143,745	71	71	9,607	9,607
Standard Mail (A):									
Single Piece Rate	125	(1,773)	0	(1,854)	0	(235)	0	(1,152)	0
Commercial Standard:									
Enhanced Carr Rte	126	25,263	25,263	28,239	28,239	3,239	3,239	4,878	4,878
Regular	127	247,935	247,935	257,822	257,822	17,555	17,555	91,307	91,307
Total Commercial	128	273,198	273,198	286,061	286,061	20,794	20,794	96,185	96,185
Aggregate Nonprofit:									
Enhanced Carr Rte	131	6,063	6,063	4,060	4,060	516	516	1,740	1,740
Nonprofit	132	83,766	83,766	32,016	32,016	6,106	6,106	10,518	10,518
Total Aggregate Nonprof	133	89,829	89,829	36,076	36,076	6,622	6,622	12,258	12,258
Total Standard (A)	135	361,254	363,027	320,283	322,137	27,181	27,416	107,291	108,443
Standard Mail (B):									
Parcels Zone Rate	136	409	409	878	878	0	0	36,822	36,822
Bound Prnt Matter	137	183	183	4,874	4,874	53	53	18,948	18,948
Special Standard	139	65	65	1,631	1,631	0	0	15,693	15,693
Library Mail	140	48	48	543	543	0	0	1,561	1,561
Total Standard (B)	141	705	705	7,926	7,926	53	53	73,024	73,024
U S Postal Service	142	9,205	9,205	3,061	3,061	277	277	5,778	5,778
Free Mail--Blind & Hndc & Servicemen	147	1,111	1,111	180	180	71	71	809	809
Internationl Mail	161	25,867	25,867	5,796	5,796	3,237	3,237	11,208	11,208
Special Services:									
Registry	163	2,578	2,578	109	109	0	0	201	201
Certified	164	268	268	0	0	0	0	0	0
Insurance	165	0	0	0	0	0	0	0	0
COD	166	0	0	0	0	0	0	0	0
Special Delivery	167	0	0	0	0	0	0	0	0
Money Orders	168	0	0	0	0	0	0	0	0
Stamped Cards	159	0	0	0	0	0	0	0	0
Stamped Envelopes	169	0	0	0	0	0	0	0	0
Special Handling	170	241	241	0	0	392	392	0	0
Post Office Box	171	0	0	0	0	0	0	0	0
Other	172	6,893	6,893	1,358	1,358	315	315	187	187
Total Spc Svcs	173	9,980	9,980	1,467	1,467	707	707	388	388
Total Volume Variable	198	1,793,453	1,793,453	781,781	781,781	154,601	154,601	213,324	213,324
Other	199	384,509	7,835	91,902	1,436	50,723	269	4,440	3,163

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		Component 1451		Component 1452		Component 1453		Component 1508	
		USPS	PRC	USPS	PRC	USPS	PRC	USPS	PRC
First-Class Mail:									
Single-Piece Letters	101	2,670,441	2,659,527	26,682	26,617	5,543	4,967	346,446	345,626
Presort Letters	102	680,492	680,492	20,878	20,878	1,117	1,117	177,322	177,322
Total Letters	103	3,350,933	3,340,019	47,560	47,495	6,660	6,084	523,768	522,948
Single-Piece Cards	104	102,520	102,520	575	575	0	0	8,638	8,638
Presort Cards	105	21,499	21,499	129	129	0	0	3,344	3,344
Total First	109	3,474,952	3,464,038	48,264	48,199	6,660	6,084	535,750	534,930
Priority Mail	110	301,570	300,976	63	60	4,341	4,311	250	207
Express Mail	111	50,507	50,507	0	0	54	54	0	0
Mailgrams	112	640	640	0	0	0	0	0	0
Periodicals:									
In County	113	6,917	6,917	0	0	0	0	1	1
Outside County:									
Reg Rate Pub	117	293,107	293,107	194	194	1,378	1,378	1,823	1,823
Nonprofit Pub	118	43,826	43,826	0	0	672	672	342	342
Classroom Pub	119	2,349	2,349	0	0	0	0	56	56
Total Periodicals	123	346,199	346,199	194	194	2,050	2,050	2,222	2,222
Standard Mail (A):									
Single Piece Rate	125	(11,488)	0	(68)	0	(606)	0	(862)	0
Commercial Standard:									
Enhanced Carr Rte	126	145,155	145,155	2,518	2,518	1,509	1,509	14,182	14,182
Regular	127	1,112,555	1,112,555	8,979	8,979	35,372	35,372	108,484	108,484
Total Commercial	128	1,257,710	1,257,710	11,497	11,497	36,881	36,881	122,666	122,666
Aggregate Nonprofit:									
Enhanced Carr Rte	131	23,078	23,078	346	346	735	735	4,126	4,126
Nonprofit	132	220,972	220,972	2,236	2,236	1,992	1,992	29,806	29,806
Total Aggregate Nonpro	133	244,050	244,050	2,582	2,582	2,727	2,727	33,932	33,932
Total Standard (A)	135	1,490,272	1,501,760	14,011	14,079	39,002	39,608	155,736	156,598
Standard Mail (B):									
Parcels Zone Rate	136	50,673	50,673	0	0	16,622	16,622	111	111
Bound Prnt Matter	137	29,298	29,298	0	0	13,597	13,597	12	12
Special Standard	139	16,653	16,653	0	0	10,783	10,783	166	166
Library Mail	140	3,832	3,832	0	0	1,262	1,262	0	0
Total Standard (B)	141	100,456	100,456	0	0	42,264	42,264	289	289
U S Postal Service	142	53,901	53,901	0	0	2,137	2,137	1,362	1,362
Free Mail--Blind & Hndc & Servicemen	147	5,719	5,719	0	0	509	509	0	0
Internationl Mail	161	102,196	102,196	211	211	4,363	4,363	6,993	6,993
Special Services:									
Registry	163	60,790	60,790	0	0	0	0	0	0
Certified	164	34,346	34,346	0	0	0	0	0	0
Insurance	165	1,219	1,219	0	0	0	0	0	0
COD	166	1,503	1,503	0	0	0	0	0	0
Special Delivery	167	0	0	0	0	0	0	0	0
Money Orders	168	0	0	0	0	0	0	0	0
Stamped Cards	159	0	0	0	0	0	0	0	0
Stamped Envelopes	169	0	0	0	0	0	0	0	0
Special Handling	170	1,112	1,112	0	0	0	0	0	0
Post Office Box	171	0	0	0	0	0	0	0	0
Other	172	58,051	58,051	0	0	123	123	610	610
Total Spc Svcs	173	157,021	157,021	0	0	123	123	610	610
Total Volume Variable	198	6,083,433	6,083,413	62,743	62,743	101,503	101,503	703,212	703,211
Other	199	1,244,645	226,425	7,178	188	0	0	80,710	2,102

Schedule D-1, Part 3
Comparison of USPS Std. A Single Piece Adjustment
By 1999

Component 1439

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	75462	76673	1211	77884	1211
Priority Mail	1390	1454	64	1518	64
Std. A Single Piece	1275	0	-1275	-1275	-1275

Component 1440

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	162116	162487	371	162858	371
Priority Mail	107	127	20	147	20
Std. A Single Piece	390	0	-390	-390	-390

Component 1441

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	156138	156522	384	156906	384
Priority Mail	0	20	20	40	20
Std. A Single Piece	404	0	-404	-404	-404

Component 1442

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	1443969	7658	-1436311	15316	7658
Priority Mail	191912	403	-191509	806	403
Std. A Single Piece	8061	-8061	-16122	-16122	-8061

Schedule D-1, Part 3
Comparison of USPS Std. A Single Piece Adjustment
By 1999

Component 1443

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	52079	52117	38	52155	38
Priority Mail	48	50	2	52	2
Std. A Single Piece	40	0	-40	-40	-40

Component 1445

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	27090	27674	584	28258	584
Priority Mail	11103	11134	31	11165	31
Std. A Single Piece	615	0	-615	-615	-615

Component 1446

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	42738	42786	48	42834	48
Priority Mail	63	65	2	67	2
Std. A Single Piece	50	0	-50	-50	-50

Component 1447

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	1036676	1038360	1684	1040044	1684
Priority Mail	2753	2842	89	2931	89
Std. A Single Piece	1773	0	-1773	-1773	-1773

Schedule D-1, Part 3
Comparison of USPS Std. A Single Piece Adjustment
By 1999

Component 1443

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	52079	52117	38	52155	38
Priority Mail	48	50	2	52	2
Std. A Single Piece	40	0	-40	-40	-40

Component 1445

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	27090	27674	584	28258	584
Priority Mail	11103	11134	31	11165	31
Std. A Single Piece	615	0	-615	-615	-615

Component 1446

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	42738	42786	48	42834	48
Priority Mail	63	65	2	67	2
Std. A Single Piece	50	0	-50	-50	-50

Component 1447

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	1036676	1038360	1684	1040044	1684
Priority Mail	2753	2842	89	2931	89
Std. A Single Piece	1773	0	-1773	-1773	-1773

Schedule D-1, Part 3
Comparison of USPS Std. A Single Piece Adjustment
By 1999

Component 1448

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	244929	246690	1761	248451	1761
Priority Mail	25739	25832	93	25925	93
Std. A Single Piece	1854	0	-1854	-1854	-1854

Component 1449

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	93019	93242	223	93465	223
Priority Mail	0	12	12	24	12
Std. A Single Piece	235	0	-235	-235	-235

Component 1450

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	1150	2244	1094	3338	1094
Priority Mail	1405	1463	58	1521	58
Std. A Single Piece	1152	0	-1152	-1152	-1152

Component 1451

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	2648613	2659527	10914	2670441	10914
Priority Mail	300402	300986	584	301570	584
Std. A Single Piece	11488	0	-11488	-11488	-11488

Schedule D-1, Part 3
Comparison of USPS Std. A Single Piece Adjustment
By 1999

Component 1452

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	26552	26617	65	26682	65
Priority Mail	57	60	3	63	3
Std. A Single Piece	68	0	-68	-68	-68

Component 1453

	FY99by.i	FY99by.a	Difference	FY99tcm.b	Difference
1st Class Single Piece	4391	4967	576	5543	576
Priority Mail	4281	4311	30	4341	30
Std. A Single Piece	606	0	-606	-606	-606

Schedule D-2
Development of PRC Function 4 Window Service Distribution Key
Test Year

	PRC MP Func. 4 Dist. Key	Std. Mail SP & Wind. Serv. Adjust.	PRC Wind. Serv. Func. 4 Dist. Key
FIRST-CLASS MAIL:			
SINGLE-PIECE LETTERS	1,402,765	11,611	1,414,376
PRESORT LETTERS	496,008		496,008
SINGLE-PIECE CARDS	55,254		55,254
PRESORT CARDS	14,724		14,724
TOTAL FIRST-CLASS	1,968,751	11,611	1,980,362
PRIORITY MAIL	206,496	611	207,107
EXPRESS MAIL	46,455		46,455
MAILGRAMS	0		0
PERIODICALS:			
IN-COUNTY	9,664	-9,664	0
OUTSIDE COUNTY:			
REGULAR	203,339		203,339
NON-PROFIT	37,078		37,078
CLASSROOM	966	-966	0
TOTAL PERIODICALS	251,048	-10,630	240,417
STANDARD MAIL (A):			
SINGLE-PIECE RATE	12,222	-12,222	0
COMMERCIAL STANDARD:			
ENHANCED CARR RTE	148,960		148,960
REGULAR	651,901		651,901
TOTAL COMMERCIAL	800,861		800,861
AGGREGATE NONPROFIT:			
NONPROF ENH CARR RTE	15,344		15,344
NONPROFIT	113,226		113,226
TOTAL AGGREG NONPROFIT	128,570		128,570
TOTAL STANDARD (A)	941,653	-12,222	929,431
STANDARD MAIL (B):			
PARCELS ZONE RATE	49,623		49,623
BOUND PRINTED MATTER	28,822		28,822
SPECIAL STANDARD	19,899		19,899
LIBRARY MAIL	4,070		4,070
TOTAL STANDARD (B)	102,413		102,413
US POSTAL SERVICE	47,150		47,150
FREE MAIL	1,737	-1,737	0
INTERNATIONAL MAIL	14,596		14,596
TOTAL MAIL	3,580,299	-12,367	3,567,932
SPECIAL SERVICES:			
REGISTRY	19,368		19,368
CERTIFIED	40,609		40,609
INSURANCE	2,532		2,532
COD	2,358		2,358
SPECIAL DELIVERY	0		0
MONEY ORDERS	0		0
STAMPED ENVELOPES	0		0
SPECIAL HANDLING	0		0
POST OFFICE BOX	0		0
OTHER	48,836		48,836
TOTAL SPECIAL SERVICES	113,703		113,703
TOTAL VOLUME VARIABLE	3,694,002	-12,367	3,681,634

Schedule D-3, Part 1
Summary of Prc Supervisor Cost Reduction

	Component	FY 2000	Test Year Before Rates	Test Year After Rates
Cost Segment 2:				
Supv. Of Mail Processing	2:4	(14,603)	(52,459)	(52,454)
City Carrier Supervision:				
In-Office	2:13	(17,377)	(16,851)	(16,474)
Elemental Load	2:14	2,130	567	570
Other Load	2:15	830	(428)	(430)
Access - MSS	2:16	2,116	(1,085)	(1,100)
Access - SSS	2:680	502	(258)	(260)
Route	2:18	2,695	(1,384)	(1,402)
Street Support	2:17	1,958	(1,023)	(1,014)
Total Cost Reduction		(21,748)	(72,922)	(72,563)

Schedule D-3, Part 2
Calculation of Supervisor Cost Reduction
FY 2000 - TYAR

FY 2000

	Mail Processing		Cost	City Carriers		Cost	City Carriers-Street		Cost
	Clks. & MH	Superv.	Ratio	In-Office	Superv.	Ratio	Elem. Ld.	Superv.	Ratio
Base Year (FY 1999) Costs	13,775,066	943,265	0.068476	3,410,729	279,115	0.081834	1,259,073	87,191	0.069250
Cost Level	548,991	17,308		133,370	5,121		49,234	1,600	
Sub-Total	14,324,057	960,573	0.067060	3,544,099	284,236	0.080200	1,308,307	88,791	0.067867
Mail Volume	329,687	22,109		77,379	6,206		36,156	2,454	
Sub-Total	14,653,744	982,682	0.067060	3,621,478	290,442	0.080200	1,344,463	91,245	0.067867
Non-Volume Workload	-	-		-	-		-	-	
Sub-Total	14,653,744	982,682	0.067060	3,621,478	290,442	0.080200	1,344,463	91,245	0.067867
Additional Workday	1,131	76		921	74		104	7	
Sub-Total	14,654,875	982,758	0.067060	3,622,399	290,516	0.080200	1,344,567	91,252	0.067867
Cost Reductions	(413,693)	(12,023)		(306,557)	(3,554)		(15,854)	(1,116)	
Sub-Total	14,241,182	970,735	0.068164	3,315,842	286,962	0.086543	1,328,713	90,136	0.067837
Other Programs	59,990	2,907		-	(3,655)		13,884	(1,148)	
Total Costs	14,301,172	973,642	0.068081	3,315,842	283,307	0.085440	1,342,597	88,988	0.066280
Supervisor Cost Reduction		(14,603)			(17,377)			2,130	

Test Year Before Rates

	Mail Processing		Cost	City Carriers		Cost	City Carriers-Street		Cost
	Clks. & MH	Superv.	Ratio	In-Office	Superv.	Ratio	Elem. Ld.	Superv.	Ratio
FY 2000 Costs	14,301,172	959,039	0.067060	3,315,842	265,930	0.080200	1,342,597	91,118	0.067867
Cost Level	777,855	36,444		224,035	10,604		90,713	3,331	
Sub-Total	15,079,027	995,483	0.066018	3,539,877	276,534	0.078120	1,433,310	94,449	0.065896
Mail Volume	243,352	16,234		49,981	4,094		35,536	2,263	
Sub-Total	15,322,379	1,011,717	0.066029	3,589,858	280,628	0.078172	1,468,846	96,712	0.065842
Non-Volume Workload	-	-		-	-		-	-	
Sub-Total	15,322,379	1,011,717	0.066029	3,589,858	280,628	0.078172	1,468,846	96,712	0.065842
Additional Workday	(2,730)	(180)		(2,245)	(172)		(254)	(17)	
Sub-Total	15,319,649	1,011,537	0.066029	3,587,613	280,456	0.078173	1,468,592	96,695	0.065842
Cost Reductions	(776,828)	-		(215,565)	-		(11,335)	-	
Sub-Total	14,542,821	1,011,537	0.069556	3,372,048	280,456	0.083171	1,457,257	96,695	0.066354
Other Programs	(17,662)	-		-	-		19,942	-	
Total TYBR Costs	14,525,159	1,011,537	0.069640	3,372,048	280,456	0.083171	1,477,199	96,695	0.065459
Supervisor Cost Reduction		(52,459)			(16,851)			567	

Test Year After Rates

	Mail Processing		Cost	City Carriers		Cost	City Carriers-Street		Cost
	Clks. & MH	Superv.	Ratio	In-Office	Superv.	Ratio	Elem. Ld.	Superv.	Ratio
FY 2000 Costs	14,301,172	959,039	0.067060	3,315,842	265,930	0.080200	1,342,597	91,118	0.067867
Cost Level	777,855	36,444		224,035	10,604		90,713	3,331	
Sub-Total	15,079,027	995,483	0.066018	3,539,877	276,534	0.078120	1,433,310	94,449	0.065896
Mail Volume	(28,183)	(1,960)		1,539	169		8,071	520	
Sub-Total	15,050,844	993,523	0.066011	3,541,416	276,703	0.078133	1,441,381	94,969	0.065888
Non-Volume Workload	-	-		-	-		-	-	
Sub-Total	15,050,844	993,523	0.066011	3,541,416	276,703	0.078133	1,441,381	94,969	0.065888
Additional Workday	(2,730)	(180)		(2,245)	(172)		(254)	(17)	
Sub-Total	15,048,114	993,343	0.066011	3,539,171	276,531	0.078134	1,441,127	94,952	0.065888
Cost Reductions	(776,960)	-		(215,565)	-		(11,175)	-	
Sub-Total	14,271,154	993,343	0.069605	3,323,606	276,531	0.083202	1,429,952	94,952	0.066402
Other Programs	(17,662)	-		-	-		19,942	-	
Sub-Total	14,253,492	993,343	0.069691	3,323,606	276,531	0.083202	1,449,894	94,952	0.065489
Workload Mix Adjustment	145,455	-		4,441	-		1,938	-	
Total TYAR Costs	14,398,947	993,343	0.068987	3,328,047	276,531	0.083091	1,451,832	94,952	0.065402
Supervisor Cost Reduction		(52,454)			(16,474)			570	

Schedule D-3, Part 2
Calculation of Supervisor Cost Reduction
FY 2000 - TYAR

FY 2000	City Carriers-Street Oth.Ld.	Superv.	Cost Ratio	City Carriers-Street Acc.-MSS	Superv.	Cost Ratio	City Carriers-Street Acc.-SSS	Superv.	Cost Ratio
Base Year (FY 1999) Costs	755,715	52,333	0.069250	1,923,107	133,175	0.069250	456,876	31,639	0.069251
Cost Level	29,550	960		75,199	2,444		17,865	581	
Sub-Total	785,265	53,293	0.067866	1,998,306	135,619	0.067867	474,741	32,220	0.067869
Mail Volume	-	-		-	-		-	-	
Sub-Total	785,265	53,293	0.067866	1,998,306	135,619	0.067867	474,741	32,220	0.067869
Non-Volume Workload	4,712	320		11,990	814		2,848	193	
Sub-Total	789,977	53,613	0.067867	2,010,296	136,433	0.067867	477,589	32,413	0.067868
Additional Workday	-	-		4,213	286		-	-	
Sub-Total	789,977	53,613	0.067867	2,014,509	136,719	0.067867	477,589	32,413	0.067868
Cost Reductions	(7,378)	(656)		(18,815)	(1,673)		(4,461)	(397)	
Sub-Total	782,599	52,957	0.067668	1,995,694	135,046	0.067669	473,128	32,016	0.067669
Other Programs	-	(675)		-	(1,720)		-	(408)	
Total Costs	782,599	52,282	0.066806	1,995,694	133,326	0.066807	473,128	31,608	0.066806
Supervisor Cost Reduction		830			2,116			502	

Test Year Before Rates	City Carriers-Street Oth.Ld.	Superv.	Cost Ratio	City Carriers-Street Acc.-MSS	Superv.	Cost Ratio	City Carriers-Street Acc.-SSS	Superv.	Cost Ratio
FY 2000 Costs	782,599	53,112	0.067867	1,995,694	135,442	0.067867	473,128	32,110	0.067868
Cost Level	52,876	1,957		134,839	4,991		31,967	1,183	
Sub-Total	835,475	55,069	0.065914	2,130,533	140,433	0.065915	505,095	33,293	0.065915
Mail Volume	-	-		-	-		-	-	
Sub-Total	835,475	55,069	0.065914	2,130,533	140,433	0.065915	505,095	33,293	0.065915
Non-Volume Workload	5,013	325		12,783	830		3,031	197	
Sub-Total	840,488	55,394	0.065907	2,143,316	141,263	0.065909	508,126	33,490	0.065909
Additional Workday	-	-		(10,351)	(672)		-	-	
Sub-Total	840,488	55,394	0.065907	2,132,965	140,591	0.065913	508,126	33,490	0.065909
Cost Reductions	(6,487)	-		(16,462)	-		(3,922)	-	
Sub-Total	834,001	55,394	0.066420	2,116,503	140,591	0.066426	504,204	33,490	0.066422
Other Programs	-	-		-	-		-	-	
Total TYBR Costs	834,001	55,394	0.066420	2,116,503	140,591	0.066426	504,204	33,490	0.066422
Supervisor Cost Reduction		(428)			(1,085)			(258)	

Test Year After Rates	City Carriers-Street Oth.Ld.	Superv.	Cost Ratio	City Carriers-Street Acc.-MSS	Superv.	Cost Ratio	City Carriers-Street Acc.-SSS	Superv.	Cost Ratio
FY 2000 Costs	782,599	53,112	0.067867	1,995,694	135,442	0.067867	473,128	32,110	0.067868
Cost Level	52,876	1,957		134,839	4,991		31,967	1,183	
Sub-Total	835,475	55,069	0.065914	2,130,533	140,433	0.065915	505,095	33,293	0.065915
Mail Volume	-	-		-	-		-	-	
Sub-Total	835,475	55,069	0.065914	2,130,533	140,433	0.065915	505,095	33,293	0.065915
Non-Volume Workload	5,013	325		12,783	830		3,031	197	
Sub-Total	840,488	55,394	0.065907	2,143,316	141,263	0.065909	508,126	33,490	0.065909
Additional Workday	-	-		(10,351)	(672)		-	-	
Sub-Total	840,488	55,394	0.065907	2,132,965	140,591	0.065913	508,126	33,490	0.065909
Cost Reductions	(6,517)	-		(16,540)	-		(3,940)	-	
Sub-Total	833,971	55,394	0.066422	2,116,425	140,591	0.066429	504,186	33,490	0.066424
Other Programs	-	-		-	-		-	-	
Sub-Total	833,971	55,394	0.066422	2,116,425	140,591	0.066429	504,186	33,490	0.066424
Workload Mix Adjustment	1,115	-		2,828	-		674	-	
Total TYAR Costs	835,086	55,394	0.066334	2,119,253	140,591	0.066340	504,860	33,490	0.066336
Supervisor Cost Reduction		(430)			(1,100)			(260)	

Schedule D-3, Part 2
Calculation of Supervisor Cost Reduction
FY 2000 - TYAR

FY 2000	City Carriers-Street Route	Superv.	Cost Ratio	City Carriers-Street Support	Superv.	Cost Ratio
Base Year (FY 1999) Cos	2,445,846	169,375	0.069250	1,767,282	122,384	0.069250
Cost Level	95,640	3,108		69,105	2,246	
Sub-Total	2,541,486	172,483	0.067867	1,836,387	124,630	0.067867
Mail Volume	3,308	225		20,090	1,363	
Sub-Total	2,544,794	172,708	0.067867	1,856,477	125,993	0.067867
Non-Volume Workload	15,269	1,036		6,005	408	
Sub-Total	2,560,063	173,744	0.067867	1,862,482	126,401	0.067867
Additional Workday	5,553	377		1,887	128	
Sub-Total	2,565,616	174,121	0.067867	1,864,369	126,529	0.067867
Cost Reductions	(23,962)	(2,130)		(17,412)	(1,548)	
Sub-Total	2,541,654	171,991	0.067669	1,846,957	124,981	0.067669
Other Programs	-	(2,191)		-	(1,592)	
Total Costs	2,541,654	169,800	0.066807	1,846,957	123,389	0.066807
Supervisor Cost Reduction		2,695			1,958	

Test Year Before Rates	City Carriers-Street Route	Superv.	Cost Ratio	City Carriers-Street Support	Superv.	Cost Ratio
FY 2000 Costs	2,541,654	172,495	0.067867	1,846,957	125,347	0.067867
Cost Level	171,727	6,356		99,570	4,619	
Sub-Total	2,713,381	178,851	0.065914	1,946,527	129,966	0.066768
Mail Volume	4,700	305		15,925	1,034	
Sub-Total	2,718,081	179,156	0.065913	1,962,452	131,000	0.066753
Non-Volume Workload	16,308	1,059		6,405	416	
Sub-Total	2,734,389	180,215	0.065907	1,968,857	131,416	0.066748
Additional Workday	(13,643)	(886)		103	(301)	
Sub-Total	2,720,746	179,329	0.065912	1,968,960	131,115	0.066591
Cost Reductions	(20,999)	-		(15,355)	-	
Sub-Total	2,699,747	179,329	0.066424	1,953,605	131,115	0.067115
Other Programs	-	-		-	-	
Total TYBR Costs	2,699,747	179,329	0.066424	1,953,605	131,115	0.067115
Supervisor Cost Reduction		(1,384)			(1,023)	

Test Year After Rates	City Carriers-Street Route	Superv.	Cost Ratio	City Carriers-Street Support	Superv.	Cost Ratio
FY 2000 Costs	2,541,654	172,495	0.067867	1,846,957	125,347	0.067867
Cost Level	171,727	6,356		124,790	4,619	
Sub-Total	2,713,381	178,851	0.065914	1,971,747	129,966	0.065914
Mail Volume	975	63		1,884	122	
Sub-Total	2,714,356	178,914	0.065914	1,973,631	130,088	0.065913
Non-Volume Workload	16,286	1,057		6,401	416	
Sub-Total	2,730,642	179,971	0.065908	1,980,032	130,504	0.065910
Additional Workday	(13,643)	(886)		(4,633)	(301)	
Sub-Total	2,716,999	179,085	0.065913	1,975,399	130,203	0.065912
Cost Reductions	(21,069)	-		(15,317)	-	
Sub-Total	2,695,930	179,085	0.066428	1,960,082	130,203	0.066427
Other Programs	-	-		-	-	
Sub-Total	2,695,930	179,085	0.066428	1,960,082	130,203	0.066427
Workload Mix Adjustm	3,603	-		2,618	-	
Total TYAR Costs	2,699,533	179,085	0.066339	1,962,700	130,203	0.066339
Supervisor Cost Reduction		(1,402)			(1,014)	

Schedule D-4
Development of PRC Bundle Breakage Distribution Key
Test Year

	USPS		PRC		
	Comp. 1457	Cost Red. Dist.	Cost Reduction	Dist.	Comp. 21:92
First-Class Mail:					
Single-Piece Letters	0	0	0	0.00%	0
Presort Letters	0	0	0	0.00%	0
Total Letters	0	0	0	0.00%	0
Single-Piece Cards	0	0	0	0.00%	0
Presort Cards	169	343	0	0.00%	0
Total Cards	169	343	0	0.00%	0
Total First-Class	169	343	0	0.00%	0
Priority Mail	0	0	0	0.00%	0
Express Mail	0	0	0	0.00%	0
Mailgrams	0	0	0	0.00%	0
Periodicals:					
In-County	0	0	0	0.00%	0
Outside County:					
Regular	3,618	7,345	20,043	38.58%	38,578
Nonprofit	1,467	2,978	7,538	14.51%	14,509
Classroom	0	0	0	0.00%	0
Total Periodicals	5,085	10,323	27,581	53.09%	53,087
Standard (A):					
Single-Piece Rate	0	0	0	0.00%	0
Commercial Standard:					
Enhanced Carrier Rte.	0	0	0	0.00%	0
Regular	4,322	8,774	22,088	42.51%	42,515
Total Commercial	4,322	8,774	22,088	42.51%	42,515
Aggregate Nonprofit:					
Nonprofit Enhanced Carr. Rte.	0	0	0	0.00%	0
Nonprofit Regular	424	861	2,285	4.40%	4,398
Total Aggregate Nonprofit	424	861	2,285	4.40%	4,398
Total Standard (A)	4,746	9,634	24,373	46.91%	46,913
Standard (B):					
Parcels Zone Rate	0	0	0	0.00%	0
Bound Printed Matter	0	0	0	0.00%	0
Special Rate	0	0	0	0.00%	0
Library Rate	0	0	0	0.00%	0
Total Standard (B)	0	0	0	0.00%	0
Penalty-USPS	0	0	0	0.00%	0
Free Mail for the Blind & Hndc	0	0	0	0.00%	0
International Mail	0	0	0	0.00%	0
Total All Mail	10,000	20,300	51,954	100.00%	100,000
Registry	0	0	0	0.00%	0
Certified	0	0	0	0.00%	0
Insurance	0	0	0	0.00%	0
COD	0	0	0	0.00%	0
Special Delivery	0	0	0	0.00%	0
Money Orders	0	0	0	0.00%	0
Stamped Cards	0	0	0	0.00%	0
Stamped Envelopes	0	0	0	0.00%	0
Special Handling	0	0	0	0.00%	0
Post Office Box	0	0	0	0.00%	0
Other	0	0	0	0.00%	0
Total Special Services	0	0	0	0.00%	0
Total Attributable	10,000	20,300	51,954	100.00%	100,000
Other Costs	0	0	0	0.00%	0
Total Costs	10,000	20,300	51,954	100.00%	100,000

Comparison of Costs Attributed by
Cost Segment and Component
($ 000's)

	PRC R2000-1 Test Year			USPS R2000-1 Test Year		
	Accrued Cost	Attributable Cost	Percent Attributable	Accrued Cost	Attributable Cost	Percent Attributable
1. Postmasters						
EAS 22 and Below	1,790,932	335,371	18.73	1,825,752	346,088	18.96
EAS 23 and Above	41,998	0	0.00	43,135	0	0.00
BMC Managers	0	0	0.00	10	0	0.00
Total	1,832,930	335,371	18.30	1,868,897	346,088	18.52
2. Supervisors & Technical Personnel						
Mail Processing	940,376	908,517	96.61	989,784	832,873	84.15
Window Service	234,390	108,324	46.22	216,563	102,177	47.18
Time and Attendance	74,694	48,428	64.84	66,007	40,622	61.54
Employee & Labor Relations	280	181	64.64	764	470	61.52
City Carriers	889,896	448,411	50.39	913,589	497,804	54.49
Expidited Delivery	11,813	5,264	44.56	10,924	5,693	52.11
Rural Carriers	17,039	8,278	48.58	24,294	11,966	49.25
Vehicle Service	38,240	23,535	61.55	38,361	23,780	61.99
Higher Level Supervisors	212,343	66,707	31.41	263,858	79,753	30.23
Superv. Qual. Cntrl./Rev. Prot.	40,563	39,182	96.60	38,292	32,165	84.00
Superv. Central Mail Mark-Up	45,030	41,998	93.27	66,894	62,167	92.93
Joint Supv. Clerks & Carriers	320,314	232,801	72.68	312,820	214,757	68.65
Gen.Supv., Mail Process.	1,135	1,096	96.56	817	687	84.09
Gen.Supv., Coll.& Del.	551	281	51.00	451	241	53.44
Other Sup., Training	60,754	33,344	54.88	53,428	27,812	52.06
Other	843,913	0	0.00	813,678	0	0.00
Total	3,731,331	1,966,347	52.70	3,810,524	1,932,967	50.73

	Accrued Cost	Attributable Cost	Percent Attributable	Accrued Cost	Attributable Cost	Percent Attributable
3. Clerks & Mailhandlers, CAG A-J						
Mail Processing	14,398,947	13,878,764	96.39	15,357,707	12,855,048	83.70
Window Service	2,469,767	1,128,829	45.71	2,308,116	1,088,998	47.18
Expidited Delivery	52,040	51,486	98.94	82,949	43,234	52.12
Administrative Clerks	2,142,657	1,380,694	64.44	1,358,028	817,287	60.18
Time & Attendance	322,281	208,952	64.84	256,791	158,035	61.54
Specific Fixed	10,745	10,745	100.00	11,697	0	0.00
Total	19,396,437	16,659,470	85.89	19,375,288	14,962,602	77.23
4. Clerks, CAG K	8,553	4,799	56.11	9,640	6,184	64.15
6. City Carrier In-Office						
Direct Labor	3,328,046	2,912,928	87.53	3,242,431	2,884,437	88.96
CAG K and LTO	369	326	88.35	764	680	89.01
Support	697,132	619,319	88.84	737,660	659,709	89.43
Train. Veh.Prep. & Key Handl.	0	0	0.00	0	0	0.00
Total	4,025,547	3,532,573	87.75	3,980,855	3,544,826	89.05
7. City Carrier Street						
Elemental Load	1,451,833	1,403,775	96.69	3,136,907	2,137,113	68.13
Cov. Rel. Load - SSS	142,158	142,158	100.00	0	0	0.00
Cov. Rel. Load - MSS	692,927	0	0.00	0	0	0.00
Access - SSS	504,860	504,860	100.00	0	0	0.00
Access - MSS	2,119,253	163,051	7.69	1,895,880	272,348	14.37
Other Attributable	1,962,701	973,871	49.62	2,068,166	1,089,225	52.67
Route	2,699,532	121,218	4.49	2,590,121	223,098	8.61
Total	9,573,264	3,308,933	34.56	9,691,074	3,721,784	38.40
Grand Total City Carriers	13,598,811	6,841,506	50.31	13,671,929	7,266,610	53.15

	PRC R2000-1 Test Year			USPS R2000-1 Test Year		
	Accrued Cost	Attributable Cost	Percent Attributable	Accrued Cost	Attributable Cost	Percent Attributable
8. Vehicle Service Drivers	545,147	335,902	61.62	529,221	328,432	62.06
10. Rural Carriers						
Evaluated Routes	3,743,291	1,767,411	47.22	3,666,070	1,726,710	47.10
Other Routes	351,658	169,763	48.28	349,264	172,858	49.49
Equip. Maint. Allow.	385,957	0	0.00	358,913	0	0.00
Total	4,480,906	1,937,174	43.23	4,374,247	1,899,568	43.43
11. Custodial Maint. Service						
Mail Proc. Equip. Mtnc.	1,260,113	941,575	74.72	1,241,801	780,024	62.81
Clean.&Prot./Oth.Equip.	1,462,962	922,435	63.05	1,469,522	914,499	62.23
Contract Cleaners	68,010	42,882	63.05	68,806	42,819	62.23
Total	2,791,085	1,906,892	68.32	2,780,129	1,737,342	62.49
12. Motor Vehicle Service						
Personnel	348,953	91,160	26.12	346,003	79,956	23.11
Supplies & Materials	338,179	96,381	28.50	340,947	78,786	23.11
Vehicle Hire	49,151	26,621	54.16	35,487	18,019	50.78
Total	736,283	214,162	29.09	722,437	176,761	24.47
13. Misc. Operating Costs						
Drive out and Carfare	73,535	9,476	12.89	67,676	8,881	13.12
Tolls & Ferriage	57,506	0	0.00	62,815	0	0.00
Other	230,206	0	0.00	197,389	0	0.00
Total	361,247	9,476	2.62	327,880	8,881	2.71

	PRC R2000-1 Test Year			USPS R2000-1 Test Year		
	Accrued Cost	Attributable Cost	Percent Attributable	Accrued Cost	Attributable Cost	Percent Attributable
14. Transportation						
Domestic Air	1,450,720	1,450,720	100.00	1,293,595	1,099,685	85.01
Alaskan Air	118,153	9,644	8.16	118,774	9,561	8.05
Highway	2,096,412	1,719,330	82.01	2,072,145	1,702,927	82.18
Railroad	295,710	293,768	99.34	288,771	286,846	99.33
Domestic Water	28,374	26,172	92.24	29,664	27,516	92.76
International Water	659,641	830,884	125.96	754,441	754,441	100.00
Total	4,649,010	4,330,518	93.15	4,557,390	3,880,976	85.16
15. Building Occupancy						
Rents	778,095	778,095	100.00	778,740	768,322	98.66
Fuel & Utilities	502,847	317,059	63.05	487,929	303,644	62.23
Other	302,149	312	0.10	367,041	0	0.00
Total	1,583,091	1,095,466	69.20	1,633,710	1,071,966	65.62
16. Supplies & Services						
Custodial & Building	138,623	87,406	63.05	122,974	76,528	62.23
Equipment Maintenance	487826	317,017	64.99	426,990	211,176	49.46
Remote Encoding S&S	221	221	100.00	900	900	100.00
Stamps & Dispensers	181,249	180,816	99.76	229,345	229,052	99.87
Compreh. Tracking & Tracing	6,176	6,207	100.50	6,177	5,816	94.16
Advertising	160,000	95,953	59.97	270,200	-	0.00
Stmp. Cds. & Emb. Stmp. Env.	11,224	11,224	100.00	11,942	11,942	100.00
Money Orders	8,072	8,072	100.00	4,009	4,009	100.00
Misc. Attrib. PMPC/Intl/DC S&S	703,990	703,990	100.00	605,385	604,626	
Misc. Postal Supp. & Serv.	1,487,102	944,587	63.52	1,198,428	716,794	
Other	874,165	40,635	4.65	918,706	45,215	4.92
Total	4,058,648	2,396,128	59.04	3,795,056	1,906,058	50.22

	PRC R2000-1 Test Year			USPS R2000-1 Test Year		
	Accrued Cost	Attributable Cost	Percent Attributable	Accrued Cost	Attributable Cost	Percent Attributable
18. Administrative & Regional Operations						
Workers Compensation	861,376	467,629	54.29	780,841	382,055	48.93
Repriced Annual Leave	61,356	38,831	63.29	79,075	47,421	59.97
Holiday Leave	3,633	2,299	63.28	3,633	2,178	59.95
Retiree Health Benefits	853,144	539,929	63.29	858,115	514,609	59.97
Annuitant COLA/LI	815,384	516,032	63.29	763,241	457,713	59.97
USPS Protection Force	88,958	56,090	63.05	82,818	51,539	62.23
Unemployment Compensation	72,800	46,073	63.29	76,000	45,577	59.97
CSRS/FERS Retire. Prin.	1,406,199	889,940	63.29	1,383,954	829,953	59.97
Money Orders	5,346	5,346	100.00	5,794	329	5.68
Other Personnel	1,087,169	25,044	2.30	1,119,074	0	0.00
Other	630,197	38,430	6.10	614,666	0	0.00
Total	5,885,562	2,625,643	44.61	5,767,211	2,331,374	40.42
20. Depreciation & Other Servicewide Costs						
Vehicle Deprec.	211,815	52,849	24.95	193,986	41,347	21.31
Mail Proc. Equip. Deprec.	1,200,367	794,309	66.17	1,155,359	590,622	51.12
Bldg. & Leasehold Deprec.	743,282	743,282	100.00	804,804	804,804	100.00
Indemnities	29,382	29,382	100.00	26,742	26,742	100.00
Note Interest Expense	252,285	186,152	73.79	236,400	157,674	66.70
Retirement Interest Expense	1,618,466	1,024,277	63.29	1,601,954	960,687	59.97
Annuitant COLA/HB Int. Exp.	-	-	0.00	-	-	0.00
Imput. Int. Special Assess.	-	-	0.00	-	-	0.00
Other Interest	45,765	-	0.00	32,383	-	0.00
Other	121,474	0	0.00	98,408	0	0.00
Total	4,222,836	2,830,251	67.02	4,150,036	2,581,876	62.21
17. Res., Develop., & Engr.	45,342	0	0.00	45,342	0	0.00
19. Support Services	52,495	160	0.30	48,522	0	0.00
Grand Total All Segments	67,979,714	43,489,265	63.97	67,467,459	40,437,685	59.94

THE VARIABILITY OF MAIL PROCESSING OPERATIONS

This Appendix provides support for the conclusions summarized in the Mail Processing Volume Variability section of the Opinion. Part 1 of this Appendix describes the historical basis of the Commission's long-established finding that mail processing labor costs vary in proportion to volume. It also analyzes the operational and economic evidence presented in this docket that bears on the proportionality finding. Part 2 of this Appendix provides support for the Commission's conclusions concerning econometric issues raised by the Postal Service's proposal. Part 3 of this Appendix provides a detailed evaluation of the evidence provided in this docket on the variability of specific mail processing operations.

1.   Characteristics of Mail Processing Operations

   a.   The Finding of Proportionality

The Postal Service aptly observes that a review of mail processing operations "creates our a priori expectation against which we can assess the reasonableness of the results" of statistical models of mail processing variability. Tr. 38 /17316. Witness Stralberg, testifying for the Periodical mailers, agrees when he says, "[I] believe that econometric results should always be tested against common sense and known facts." Tr. 38/17276. Since the Commission's initial rate proceeding in Docket No. R71-1, it has affirmed the fundamental operational finding that mail processing labor varies essentially in proportion to the volume of mail that is sorted to its destination. This conclusion had been accepted by the Postal Service for 25 years, until Docket No. R97-1. Over this period, participants in rate proceedings have relied on an examination of mail processing operations rather than statistical inference to determine the variability of mail processing labor. This is because the basic data essential to a statistical analysis of volume

variability have not been available. The Postal Service does not collect data that allow work hours to be associated directly with the volume of mail sorted to its destination, either at the operation, plant, or system level.

The Postal Service now dismisses the proportionality finding as a "convenient assumption" [Docket No. R97-1, Initial Brief of the United States Postal Service, at III-19], but it has been much more than that. The analysis supporting the proportionality finding was conclusory in the beginning, but has evolved over of time. The logic that mail processing labor costs rise in proportion to the number of pieces or containers sorted was intuitively reasonable in the era when mail processing was entirely manual. As the mail processing environment became mechanized and then automated, the Postal Service concluded that essentially the same reasoning applies to processing in those environments as well.

Although the Postal Service prefers to characterize the proportionality conclusion as a superficial generality, its applicability to the various phases of mail processing operations was thoroughly considered. With respect to the mail sorting activities which lie at the core of mail processing, the Postal Service observed that proportionality is supported by the fact that throughout the system, processing equipment is operated at or near capacity, according to standard operating procedures:

> For efficient utilization of specialized machinery, such as letter sorting machines, optical character readers, remote encoding equipment and facer-canceler, most of the activities are performed under standard operating procedures and high volume conditions.

Docket No. R97-1, USPS LR-H-1 at 4.

The Postal Service found further evidence of proportionality in the fact that it continually and meticulously adjusts staff to workload:

> As a consequence of mail arrival times and dispatch schedules, certain activities occur only at certain times of day (and to a lesser extent, only on certain days of the week). Accordingly, the work as a whole is organized in

terms of work centers. Each work center specializes in a particular activity and is staffed with the proper number of craft employees at the times when this activity is required. Some work centers may function continuously, while others may function only for a few hours a day. To meet this ebb and flow, craft employees are carefully scheduled among activities, often on an hour-by-hour basis.

Id. at 4-5.

It summarized the response of work hours in distribution operations to changes in volume:

> The essential feature of mail processing and distribution is that each piece of mail, mail container, or unit of mail volume requires individual handling at each work center, regardless of the way in which the volume is spread among centers and over the time of day. Therefore, mail processing and distribution activities as a whole are considered fully variable with volume. Although the different volumes and shapes of mail handled cause individual work centers to operate with different productivity factors, each center necessarily makes a proportionate contribution to the overall flow of volume. Accordingly, mail processing and distribution costs are classified as fully variable.

Id. at 5.

The Postal Service thoroughly evaluated the applicability of the logic of proportionality to the detailed activities within the various phases of mail processing. For example, with respect to Platform operations, the analysis considered not only the likely effect of volume changes on the multitude of activities included in that operation, but the likely interaction of volume with network effects.[1]

> [Platform] activities involve accepting or weighing mail at a weighing section, verifying and accepting mail from a customer at a non-weighing section of the platform; performing mail-expediter work on the platform; performing rough separations of mail; loading mail onto or unloading mail

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[1]   The Postal Service now cites "network effects" as the basis for its new-found belief that mail processing labor costs are substantially non-responsive to volume.   See USPS-T-15 at 125, USPS-T-16 at 6, 22.

from a vehicle; moving mail from one vehicle to another vehicle; moving mail from one vehicle to a temporary platform storage area for later loading to an outbound vehicle; and platform-related work such as opening or closing vehicle doors, securing containers within a vehicle, or fixing a damaged parcel.

The time spent on loading, unloading, dock transfer work, and related activities generally depends on the number of sacks, hampers, and other containers handled in these operations. Mail volume, dispatch schedules, and other transportation requirements, in turn, determine the number of sacks, hampers, and other containers that must be loaded, unloaded, or transferred at platforms. In view of the relative stability of dispatch schedules and transportation modes and patterns, changes in mail volume tend to cause proportional changes in the number of containers that must be handled. Accordingly, platform loading, unloading, and transfer costs are classified as variable.

Id. at 2-3.

The Postal Service's analysis also considered reasons that limited departures from proportionality might occur in some aspects of the platform operation:

Time spent on platform acceptance activities depends largely on the number of bulk and permit mailings. The number of such mailings determines the number of sacks and other containers handled, which is a function of the volume of mail. It is recognized that volumes of mail included in bulk mailings can change within a limited range and change the size, but not the number, of bulk mailings. In such instances, the change in platform time may not be fully proportional to the change in mail volume. However, although such a limited range would accommodate minor alternating increases and decreases in volume, it is not believed that it would accommodate major increases or decreases. Thus, to a great extent, increases in mail volume result in increases in the number of bulk mailings and in the time spent on platform operations activities.

Id. at 2-3.

The Postal Service's variability analysis identified activities to which the logic of proportionality does not apply, and made allowances for them:

A portion of the time spent by employees assigned to platform acceptance work does not involve actual acceptance activities or other related functions. Such slack time is unavoidable because employees must be available to accept mail when it is delivered to the platform. Costs for such platform acceptance time are classified as institutional. The costs for other platform acceptance operations are classified as fully variable.

Id. at 3.

The Postal Service also made detailed evaluations of the variability of the mail collection and preparation phase of mail processing, as well as many of the more specialized activities that mail processing requires. It concluded that the response of workhours to changes in mail volume is essentially proportional with respect to these activities as well. *Id. at* 5.

It can be seen from the foregoing that the reasoning underlying the conclusion that mail processing labor costs rise essentially in proportion to volume takes into account the influence of service standards and network effects. It recognizes that even though productivity levels differ among processing operations, their variabilities (the percentage change in the total costs of an operation caused by each unit percentage change in volume) can be similar and proportional. It is also clear from the foregoing that the reasoning supporting proportionality does not arbitrarily assert that the volume variabilities of all mail processing operations are 100 percent. It allows for variabilities that are less than or more than 100 percent for various operations, but it considers proportionality to be the likely center of gravity for mail processing operations as a whole.

The conclusion that mail processing labor costs rise essentially in proportion to the volumes processed is based on operational experience. Because the experience is qualitative, it does not indicate precisely how far specific operations might deviate from that center of gravity.

b. The Testimony of the Postal Service's Operations Witnesses Supports the Proportionality Finding

Postal Service operations and management witnesses provide unusually detailed descriptions of the general organization, equipment, and staffing practices of the Postal Service's mail processing plants in this proceeding. These descriptions mostly apply to the Service's Processing and Distribution Centers of which there are over 300. Some descriptive material has also been provided for the 21 Bulk Mail Centers (BMC) and the over thirty Priority Mail Processing Centers. The most complete descriptions of mail processing activities are found in the direct testimony of witness Kingsley USPS-T-10. Additional testimony, mainly applicable to the processing of flats, is found in the supplemental testimony of witnesses O'Tormey (USPS-ST-42) and Unger (USPS-ST-43). During cross-examination, these witnesses also described letter and parcel sorting activities.

These witnesses describe standardized equipment and processes that apply throughout the Postal Service's mail processing network. With respect to the manual activities, these have changed little over time and are virtually identical at all mail processing plants. It is also perfectly clear from witness Kingsley's testimony that the Postal Service selects from a short list of standardized types of automated and mechanized machinery when it plans automated and mechanized operations at its plants. At the time of her testimony there were 1,086 Advanced Facer Canceller Systems (AFCS), 7 Letter Sorting Machines (LSM) left over from a much larger number in use several years ago, 976 Multi-line Optical Character Readers (MLOCR) of which 101 are "low cost", 4,920 Delivery Bar Code Sorters (DBCS), 3,732 Carrier Sequence Bar Code Sorters (CSBCS), 1,369 Mail Processing Bar Code Sorters (MPBCS), 360 Letter Mail Labeling Machines (LMLM), 812 Type 881 Multi Position Flats Sorting Machines (FSM 881), 340 Type 1000 Multi Position Flats Sorting Machines (FSM 1000), and 341 Small parcel Bundle Sorters (SPBS) of which 240 have an advanced feed system. In addition, 287 plants are equipped for the Remote Bar Coding System (RBCS), 175 Automated Flats Sorting Machines (AFSM 100) are to be deployed

beginning in March 2000, and advanced feed systems for 50 more SPBCs are on order. Of all the major types of machines used by the Postal Service to process mail, only a small number of Linear Integrated Parcel Sorters (LIPS), found at the BMCs, are not standardized.

Witness Kingsley has described to some extent how the Postal Service has acquired this equipment, occasionally modified it and currently staffs it. Virtually all of the major changes were (and continue to be) coordinated system-wide actions taken over fairly short periods of time. For example: the AFSCs have received an Input Sub System modification, since Docket No. R97-1; a Greyscale Camera, a co-directory lookup and a co-processor have been added to the MLOCRs; the DBCSs are currently being retrofitted as Output Sub Systems for RBCSs; last year all of the FSM 881s were retrofitted with Optical Character Readers and all of the FSM 1000s were retrofitted with a Barcode Reader. By coordinating and enforcing the same changes and upgrades throughout the system, the Postal Service preserves its ability to apply essentially the same rules for organizing mail flows, the same productivity standards for management, and the same staffing criteria for its mechanized and automated equipment throughout its mail processing system.

Witness Kingsley's direct testimony gives the normal hourly output rates and the staffing levels that the Service expects for every major type of processing machine still in use except the obsolete LSMs and the non-standard LIPSs. The AFCSs cancel 32,000 letters per hour and are staffed by one mail handler; MLOCRs 29,000 pcs/hr and two mail handlers, low cost MLOCRs 37,000 pcs/hr and two mail handlers; DBCSs 37,000 pcs/hr and two mail handlers; CSBCSs 19,000 pcs/hr and one mail handler; MPBCSs 35,000 pcs/hr and two mail handlers; LMLMs 20,000 pcs/hr and one mail handler; FSM 881s 6,500 pcs/hr and six mail handlers; FSM 1000s 5,000 pcs/hr and six mail handlers; AFSM 100s 17,000 pcs/hr and six to nine mail handlers depending on readability; SPBSs 678 to 945 pcs/hr per station, with four to six stations and three mail handlers per station; SPBSs with the feed system reduces staffing by one half to three mail handlers per crew depending on the number of stations. It is altogether clear from witness

Kingsley's testimony that the Postal Service expects all of its mail processing equipment to run at constant output rates per man hour. Even if the equipment must occasionally be stopped for personnel relief, servicing, breakdowns, jams and other operational causes, the pieces per work hour will be lower but still fairly constant because the stops themselves will occur at approximately constant rates per hour.

Witness Kingsley identifies several mail processing operations as "gateway" and "dispatch" operations. Gateway operations must be performed prior to other mail processing operations. Dispatch operations must be performed on time to meet downstream service commitments. According to witness Kingsley "allied operations are gateway and dispatch operations that are critical to service," USPS-T-10 at 23, and "platform, opening units, cancellation, even the OCRs to some extent" are gateway and dispatch operations. *Id. at* 30. From her descriptions, Preparation and Cancellation are also gateway operations. About the mail preparation operation, she says "this is where letters, flats and parcels get separated for subsequent handling," *Id. at* 2, and flats from opening units must be "prepped." *Id. at* 10. About Cancellation she says "bundles and trays of metered letters and flats are forwarded directly into sortation equipment while stamped mail first gets faced and cancelled." *Id. at* 2. Scheduling gateway and dispatch operations is obviously necessary for a smooth flow of mail through a mail processing plant and beyond. "Critical for service" is the way witness Kingsley puts it. *Id. at* 23-24. Her testimony, however, does not assert that excess capacity is designed into the staffing plans for these activities.

"Backstop" operations are a direct result of postal planning which is "geared toward processing mail in the most economical operation while meeting service requirements." USPT-T-10 at 32. According to the Postal Service, automated and mechanized operations are always cheaper than manual operations for letters and flats. *Id. at* 23. Consequently, manual letters and manual flats have become backstop operations that are performed mostly on letters and flats that are non-machinable or rejected by automated/mechanized equipment. About manual operations witness Kingsley says "The volume that is still left in manual letter operations is primarily composed of pieces

that are deemed to be non-machinable on automation due to one of several factors" and "rejects from automation also end up in the manual operation." USPT-T-10 at 7. About manual flat sorting she says "flats that remain in manual operations today (other than for incoming secondary processing) are pieces that do not meet the processing specifications for the FSM 1000 or are rejects from that machine," *Id. at* 13, and "there are also heavy volume periods where our existing shortfall in flats sorting capacity results in some flats, that could otherwise be processed on the FSM 881 or FSM 1000, being processed in manual operations." *Id. at* 13-14. A "majority" of Mail Processing and Distribution Centers and 19 of 21 BMCs have SPBSs. Also, non-machinable outside parcels (NMOs) may be sorted manually or using mechanized sorting equipment. Apparently, manual parcels and manual Priority Mail remain the primary processing operations for parcels at many facilities. As with gateway and dispatch operations, witness Kingsley's testimony says little about staffing. About manual letters she says "manual cases are staffed to meet the somewhat uncertain volumes of automation rejects in order to meet the transportation dispatch schedules and, ultimately, the service commitments." *Id. at* 8.

With respect to setup and teardown time, the testimony of the Postal Service's operations witnesses confirms that this time is significant for some processing operations but not for others. In addition, some very rough quantitative estimates of setup and teardown times for letters and flats were obtained from witness Unger in hearings. Letter sorting apparently requires very little setup or teardown time on any of the Service's various letter processing machines. Witness Kingsley says "all letter sorting equipment sorts into bins that have to subsequently be manually swept into letter trays. Thereby, allowing processing to commence without first setting up trays." USPS-T-10 at 3. Witness Unger, in response to questions speculated that converting OCRs from one sorting scheme to another would not account for a lot of the hours worked on the machines. His guess was "about 5 percent" Tr. 21/8263. Short runs on automated letter sorting equipment are generally avoided as the consequence of a Postal Service rule found in the testimony of witness Kingsley: "barcoded letters will be sorted to DPS for

zones having 10 or more city routes" and "zones having five to nine routes will receive automated sortation to the carrier route level." USPS-T-10 at 8.

About flats, witness Kingsley says "setup and pull down times per machine remain fairly constant between tours and operational runs, no matter whether the number of pieces processed is 5,000 or 50,000." *Id. at* 12. Witness Unger responded to questions with an estimate that the setup time for an FSM might be as high as 40 percent of the time spent on a very short run but that such short runs would be uncommon. Tr. 21/8262-8270. He also stated that 70 or 80 percent of FSM time is typically spent directly on sorting. Tr. 21/8262. This seems to correspond roughly to the FSM's staffing requirement which is "six employees – four for induction and two for sweeping bins, clearing jams, and/or loading ledges." USPS-T-10 at 12. The induction employees are the ones working directly on sorting. Witness O'Tormey identified a run of 5,000 pieces as the acceptance level for the Service's present FSMs. Tr. 21/8379. The acceptance level for the new AFSM 100s is anticipated to be 3,000 or 4,000 pieces Tr. 21/8380. The testimony of the Service's operations witnesses is not conclusive with respect to the expected length of FSM runs. However, if we take 27,500 pieces (the mid-point of the range) as the average length of run, setup time would be less than 8 percent of the total hours worked on the FSMs. Witness Unger has testified that "supervisors in mail processing plants look for mail that will allow a long uninterrupted run" of the FSM 881s and FSM 1000s Supplementary Testimony at 9.

Bundle sorting on the SPBSs involves some fixed setup and teardown time. Witness Kingsley says "bundle distribution requires manual labor for operational set-up and breakdown. This involves the collection and placement of containers and placards for set-up. Also, at the time of dispatch, containers are closed and moved to the dock to meet transportation." USPS-T-10 at 21. Manual Parcel and Priority Mail sorting may also require setup and teardown times for the same reasons.

However, setup and teardown times for manual letters and flats sorting operations are negligible. According to witness Unger "manual distribution" operations for flats have no significant setup or shutdown requirements Tr. 21/8256, and, speaking of both letters

and flats, "there is really no set-up", "because the conversion of a scheme is in the person's head." Tr. 21/8266. Finally, there is no reason to believe from the testimony of any of the Postal Service manager witnesses that setup and teardown times are a significant factor in any allied operation.

Witness Kingsley's testimony deals most directly with the subject of how labor and capital at processing plants change in response to changes in volumes that are perceived by management as permanent. The complete labor response takes less than one year. "It can be as much as a year from initiating a staffing change due to a change in volume to the time when staffing has fully adjusted to the shift. If staffing changes due to new equipment, the process is similar." USPS-T-10 at 31. The response of capital to volume growth described by witness Kingsley in her long discussion of space planning is a mix of short run and long run options. "The ideal configuration for distribution is centralized distribution within an existing plant, utilizing existing plant space to the fullest. When existing plant space is inadequate, the second option is to decentralize some processing operations into existing postal space outside of the plant. The third option is to change mail flows to reduce workload and thus space required for the workload. New processing space is obtained only as a last resort." USPS-T-10 at 32-33. Continuing, witness Kingsley "roughly orders" the options for obtaining new space as follows: 1) expand the processing space at the existing plant, 2) expand the plant, 3) build or lease an annex to the plant, 4) replace the main plant, and, 5) build or lease a new plant. Witness Kingsley's list is roughly ordered to reflect the Postal Service's operational preferences for adding space and equipment at its plants. Witness Kingsley does not provide any estimates of the time required for any of the options she lists, however, the most-preferred options on her list would not take as long as three to four years to exercise.

Equipment changes can occur on an even shorter time scale. Responding to a question, witness Unger states "I would say that if a plant manager is put on notice in our area that he's under-utilizing a piece of equipment, he will be given anywhere from four to five months before we pull the piece of equipment, depending on what time of year it

is." Tr. 21/8257. In general, the testimony of all of the Service's operations witnesses shows that the Service adds new equipment, retires old equipment, upgrades equipment and shifts equipment among mail processing plants continuously and surprisingly quickly. All of the system-wide equipment changes described in their testimony, even some that were fairly massive, seem to have been accomplished in no more than several years (excluding time for development and testing).

Mail processing plants operate under a supervisory system that makes it difficult to believe that there could be very much simple waste of either man hours, plant space or equipment capacity. Witness Unger's oral testimony described above also shows that plant performance is monitored by higher management so that under utilization of equipment is detected and promptly corrected. In Docket No. R97-1, USPS-RT-8, Postal Service witness Steele described a Postal Service incentive system that is referred to by witness Kingsley as follows "The management incentive system drives Postal operations planning related to operating expenses. Annual incentive payments are awarded for meeting goals for service performance, financial performance, and various employee metrics such as training and safety." USPS-T-10 at 28. The incentive system should effectively discourage operations that are simply wasteful of labor and capital. Witness O'Tormey's supplemental testimony provides a rather long list of initiatives and programs undertaken by Service management "to reverse the declining trend in FSM productivity, control processing costs, and increase automated flat processing." USPS-ST-42 at 19-20. He also describes the work of a Breakthrough Productivity Index group. *Id. at* 22. Not much waste in flats processing could survive this much management attention.

In summary, the Commission finds that the testimony of Postal Service operations witnesses is basically compatible with the historical observations that led to the established proportionality finding. These are, first, that mail processing operations are run at nearly uniform average output rates per man hour; second, that there is little labor time that can be identified as downtime or slack time (in the sense that the activities are fully staffed when the processes are not running at full capacity); and, third, that

proportional changes in both labor and capital in response to volume changes are feasible at individual plants within a three-to-four year period of time.

We should note that witness Kingsley has testified that a long term increase in volume will improve productivity in mail processing "everything else being equal." USPS-T-10 at 30-32. This will occur, she believes, because the runs on processing machines will tend to become longer. However, she does not believe that this effect would necessarily occur if a volume increase is accompanied by an increase in possible deliveries. Nor does her testimony suggest that the effect would be particularly large.

c. The Postal Service's New Operational Arguments

The variability estimates produced by Postal Service witness Bozzo's econometric models conflict with the long-held view that mail processing labor costs vary essentially in proportion to the volume of mail sorted to its destination. Where it applies, the proportionality finding results in variabilities that are 100 percent. Witness Bozzo's variabilities are shown expressed as percentages in Table F-1. They range from 95.4 percent for LSM operations to 52.2 percent for Manual Parcels and Manual Priority operations. Their overall weighted average is 72.8 percent. Both witness Bozzo and USPS witness Degen have attempted in their testimony to reconcile these estimates with prior descriptions of USPS mail processing operations. A reconciliation is necessary because an inspection of witness Bozzo's estimates reveals two general characteristics of his variabilities that are quite unexpected.

First, the lowest variabilities are estimated for manual sorting operations, while the highest variabilities are estimated for mechanized and automated operations. This runs counter to expectations which are that in the manual sorting operations labor costs should change in proportion to workload, mail pieces are handled one at a time, and there are few, if any, capital costs to be amortized over volume. For example, the recent Data Quality Study prepared by A.T. Kearney, Inc., in response to a request from Congress, called for a reevaluation of the long-standing proportionality assumption. It commented that this proportionality assumption might have been appropriate for an era

Table F-1
Base Year 1998 Postal Service Estimates Expressed as Percentages (%)

	Variability	Non-var: Work Hours	Capital Elasticity	Labor Prod.	Capital Prod.	Return to Scale
BCS	90	11	2	112	-3	109
OCR	75	25	0	133	0	134
FSM	82	18	5	122	-6	116
LSM	95	5	1	105	-1	104
Manual Flats	77	23	5	130	-7	123
Manual Letters	74	27	4	136	-5	131
Manual Parcels	52	48	10	192	-20	172
Cancellation & Meter Preparation	55	45	6	182	-11	171

Notes:
Variability & Capital Elasticity from Table 6. Principal Results USPS BY Method USPS-T-15 at pp. 119-120
    Revised 1/28/00 restated as percentages.
Variability (dL/dV)*(V/L) expressed as a percentage.
Capital Elasticity of Labor (dL/dK)*(K/L) expressed as a percentage.
Non-productive Work Hours equals 1 minus Variability stated as a percentage.
Labor Productivity (dV/dL)*(L/V) equals 1/Variability stated as a percentage.
Capital Productivity (dV/dK)*(K/V) equals minus Capital Elasticity/Variability stated as a percentage.
  Returns to Scale (C/Y)/(dC/dY) equals Labor Productivity plus Capital Productivity.

in which mail processing was entirely manual, but that automated mail processing should be expected to have lower variability. Data Quality Study, April 16, 1999, Summary Report, at 76. It explained that automated processing requires "less piece handling" than manual processing, and more batch handling, and "more time watching the operation when no mail is handled." Data Quality Study Technical Report # 4, at 43.

    Second, witness Bozzo's volume variabilities are not just lower than 100 percent, many of them are much lower than 100 percent. Witness Degen argues that the low variabilities that witness Bozzo estimates for specific processing operations are reasonable. He does this by identifying specific kinds of downtime, waiting time, or slack time that he believes exist in various processing operations that cause the operation not to be operated at full capacity a sufficient portion of the time to account for witness Bozzo's low variabilities. The column in Table F-1 labeled "Non-Variable Work Hours"

shows the percentage of total time that, under the Degen hypothesis, would have to consist of setup and teardown time, or time spent waiting for mail to process in gateway or backstop activities, or some other identifiable source of non-variable time. The non-processing work hours are one minus witness Bozzo's variabilities expressed as percentages. Except, perhaps, for LSM they are all large; the weighted average for all processing activities is 27.2 percent. This represents an extraordinarily high proportion of non-variable labor time to find among production workers in any industrial establishment.

Witness Degen's direct testimony includes a lengthy systematic attempt to reconcile witness Bozzo's variabilities with a descriptive account of mail processing operations. Witness Degen is an economist and consultant, so his descriptions are distilled from other sources. USPS-T-16 at 30-54. His method of analysis is essentially the same for each MODS cost pool. He identifies specific kinds of downtime, waiting time, or slack time that he believes exist in a particular processing operation that cause the operation not to be operated at full capacity a sufficient portion of the time to explain witness Bozzo's low estimated variability for that operation. He hypothesizes that the kinds of non-processing labor time that he describes are fixed with respect to volume. He makes no attempt to quantify the various forms of fixed costs that he describes.

The non-variable labor time hypothesized by witness Degen consists of setup and teardown time for processes that use mechanized or automated equipment, workers assigned to create provide a cushion of excess capacity at gateway and backup operations, workers engaged in mail movement and sweeping activities at the end of runs to meet service commitments, and manual processing conducted below the best sustainable pace ("discretionary effort").

For reasons explained more fully in Part 3 of this Appendix, the Commission has considered and rejected witness Degen's operational explanations of the Postal Service's new volume variabilities. Neither Degen, nor any other Postal Service witness, has described specific sources of non-variable time that are sufficient to explain the low variabilities estimated by witness Bozzo. To the minor extent that witness Degen's

hypotheses regarding setup and teardown times can be checked against the testimony of the Service's operations witnesses, the implied setup and teardown times turn out to be much too large.

The other kinds of non-variable labor time hypothesized by witness Degen are ruled out by the Service's operations witnesses. Witness Degen's "discretionary effort" hypothesis for "worker-paced" processing operations is that the intensity of effort can rise or fall in response to the pressure of random volume fluctuations. He argues not only that day-to-day spikes in volume can be absorbed in this manner, but that sustained increases in average daily volume can also be absorbed by more intense work effort. He argues that the Postal Service can "capture this discretionary effort" by holding staff levels unchanged in the face of sustained increases in average volume. USPS-T-16 at 41; USPS-RT-5 at 15. UPS witness Neels agrees that because mail volume varies randomly, and staffing levels are set to handle expected workload, productivity might vary in response to changes in workload. But, he argues, absorbing volume peaks with more intense work effort is a short-run phenomenon. He argues that it is unlikely that supervisors could demand ever-increasing intensity of work effort to absorb sustained increases in workload. Tr. 27/12827. The Commission agrees with witness Neels that it is unrealistic to expect that rising volumes can be absorbed indefinitely by an ever-increasing intensity of work effort. At some point over a three-to-four-year rate cycle, the extra effort would have to revert to normal. It might be realistic to sustain intensity effects over several years time if the operation were substantially overstaffed to begin with. But if raising the ratio of workload to worker is all that is needed to make staff work more intensely, it is hard to explain why management would not have realized this long ago, and followed a strategy that would have produced the optimum workload-to-worker ratio in the base period.

Witness Degen's hypothesis with regard to gateway operations is that the Postal Service builds in excess labor capacity at the beginning and the end of all of the gateway operations--dock/dumping, culling, and canceling---in order to rush the mail to downstream sorting operations and allow them to start their operations at full capacity.

From this premise, he inferred that the periods of peak staffing at the beginning and the end of these operations were absorbing additional volume without increasing staff levels.

The flaw in this theory is apparent. Lumps of mail arrive at unpredictable intervals during the peak periods. Excess staffing during the peaks provides the extra resources needed to process these lumps immediately and send them downstream. But if new, higher volumes of mail arrive at unpredictable intervals during the peaks, it simply means that the lumps of mail that require peak processing will now be larger, and the extra staffing needed to process them immediately and send them downstream will have to be proportionately larger. New, higher volumes arriving during the shoulder period would have the same effect under the Degen scenario, because the shoulder period is already staffed to match expected volumes.   USPS-T-16 at 38.[2]

On rebuttal, MPA witness Stralberg testified that peak loads do not imply that volume variability in these gateway operations is low. He commented that if mail volume were to double, with mail arriving in the same peak patterns as before, peak load conditions would not change. He added that "[f]acilities will have to staff for peak demand, thereby incurring the same proportion of employee idle time in between peaks." Tr. 38/17282. Witness Stralberg goes on to observe that if the Postal Service were to arrange for additional volumes of mail to arrive in the intervals between the peaks, that workload would be smoothed, and the variability of costs would be reduced. *Id.* This a truism, but not a particularly relevant one. Since it would be advantageous for the Postal Service to smooth the arrival times of existing volumes and it has not done so, there is no evidence to suggest that the Postal Service would be able to smooth the arrival times of additional volume.

The primary additional source of fixed non-processing time is set-up and tear-down time. Sort "plans" or "schemes" take mail destined within a service area (defined by region, processing facility, delivery unit, carrier route, etc.) and distribute it among

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[2]   Witness Degen, in discussing platform operations, agrees that if mail has been arriving in trucks at unpredictable intervals in the base period, and then higher volumes arrive at similarly unpredictable intervals, the Postal Service is likely to increase the size of the trucks that arrive, rather than their number or frequency. USPS-T-16 at 50.

smaller service areas or units. Generally, the finer the level of a sort, the more separate schemes that will have to be run to achieve it.   Generally, each scheme that is run must be set up and then torn down. Set-up time involves arranging and labeling receptacles to receive the sorted mail. Tear-down time involves sweeping the mail from these receptacles, or removing the receptacles from the machine, and sending it to a downstream operation.

Witness Degen argues that set-up time, and the time it takes to make the final sweep of each scheme, are fixed costs that will not vary with volume, but with the number of schemes run. He asserts that the degree to which set-up and tear-down time will reduce the variability of the operation will depend on the length of the run relative to the length of the set-up and tear-down time. Higher volume, he argues, will lengthen the run without lengthening the fixed set-up and tear-down time. *Id. at* 39, 43, 46.   UPS Witness Neels concedes that set-up and tear-down time for machines might be fixed over a narrow range of volumes, and could be amortized as added volume allows longer runs. What witness Degen does not recognize, according to witness Neels, is that at the end of this range, when higher volume requires adding a machine, there will be diseconomies of scale until that machine is used to capacity. The cycles of economies of scale and diseconomies of scale as machines are added and scaled up to capacity net out to constant returns to scale (proportionality), according to witness Neels. He adds that over a wider range of volume, set-up and tear-down time rises in proportional to volume as well, since it is replicated with each machine added.   Witness Neels asserts that the range of changes in volume and machine installations revealed in witness Bozzo's data is sufficient to produce these effects. For example, he calculates that the average number of Flat Sorting Machines per facility rose from 5.6 in 1993, to 11.3 in 1998. Tr. 21/12820-22.

Witness Degen counters witness Neels' argument with a number of arguments, one of them partly valid. It is that "scheme changes, not volumes, drive the number of setups and takedowns, particularly in secondary operations." USPT-RT-5 at 12-13 He argues that the number of schemes is driven by the number of delivery units and delivery points.

Witness Stralberg concurs. He asserts that in the incoming secondary flat sorting operation, the number of schemes run in an SCF facility is determined by the number of 5-digit zones it serves. He asserts that each FSM can sort one, or at most two 5-digit zones at a time, and that each facility has far more zones to sort than it has FSMs to sort them. He speculates that if volume were to double, causing FSMs to double, that the length of runs could double. This, he argues, would cut set-up costs in half, and expand the number of zones that can be sorted on the machines. TW-RT-1 at 13-14.

The record is not developed well enough to support definitive findings on what the ratio of fixed set-up and tear-down time to runtime is in any of the operations modeled by witness Bozzo. In conclusory fashion, witness Degen characterizes set-up and tear-down time as "small" for some operations and "substantial" for others. He does not estimate either the average time that a set-up and tear-down cycle takes on a particular machine, its average runtime, or the average number of cycles that a machine goes through in a particular operation on a given tour. USPS-T-16 at 36. What can be said based on this incomplete record is that higher volume will sometimes lengthen runs within a scheme without multiplying set-up and tear-down cycles. But this response to volume has limits. Narrow processing windows can severely restrict the opportunity to lengthen runs for a given scheme. At other times, higher volumes are likely to cause the same scheme to be replicated, making the setup/shut down cycle volume variable, for reasons discussed in Part 3.

The Postal Service takes issue with the expectation expressed by the Data Quality Study that the volume variability of automated mail processing should be lower than manual processing. It attempts to explain why the variability of automated mail processing should be expected to be high. In the process, the Postal Service restates much of the reasoning that underlies the proportionality conclusion that it had previously accepted. It observes that "pieces of mail are handled no less individually on automated equipment than at a manual case." USPS-T-15 at 129. It cautions against assuming that increased batch handling of mail resulting from increased automation of mail processing would reduce variability. It points out that increased batch handling would

increase labor costs "to the extent that additional volumes cause additional batches." *Id. at* 128, n. 65. Elsewhere, it confirms its view that automated equipment is operated throughout the system according to standard procedures, at or near capacity when running.

The Commission's detailed analysis of witness Degen's explanations of the Postal Service's variabilities is found in Part 3 of this Appendix. The following excerpts from witness Degen's direct testimony show how he analyzes the variability of each major cost pool by identifying specific sources of downtime, waiting time, or slack time that are sufficient to explain the degree of invariability estimated in each pool. He does not attempt to quantify the amount of non-variable time that he would associate with any of these specific sources.

Barcode Sorters (BCS)

Barcode sorters have minimal setup times. Because the bins on the BCS can hold about 1.5 feet of mail, the sweeper can set up the racks of trays while the machine is running. The loader turns on the machine, selects the scheme, and begins feeding it the mail. Loaders rarely have to stop the machine for lack of mail. The machine's run time should vary closely with the number of pieces fed. However, the operation includes a small amount of setup and takedown work that will not be volume-variable. The takedown work for the sweeper, for instance, will depend more upon the number of output bins than the volume of mail in the bins at the end of each run. *I would expect a relatively high volume-variability factor for BCS operations, but not quite 100 percent due to short periods of down time during scheme changes and dispatches.* (Emphasis added*)*

USPS-T-16 at 39.

The Postal Service's variability estimate of 89.5 percent means that about 10.5 percent of BCS work hours must be comprised of non-variable time spent on such activities as setup, takedown and sweeping at the end of runs. Like all of witness

Degen's explanations, there is nothing in his testimony to verify that 10.5 percent

corresponds to an observable amount of BCS time for these functions.

Optical Character Readers (OCR)

> Like the barcode sorters, the OCRs are staffed with a feeder and a
> sweeper. The machine sets the pace and only infrequent jams and
> equipment breakdowns interrupt a run. The feeder and sweeper function
> in the same roles as they do on the BCS.

USPS-T-16 at 39.

> OCR operations consist of activities generally similar to BCS operations.
> This would suggest that the OCR cost pool would have similar volume
> variability. However, the OCR operations function as the gateway function
> for non-barcoded letters. In order to meet outgoing dispatch times, the
> OCRs may be started and staffed with a feeder and sweeper before an
> ample backlog of mail is available to ensure uninterrupted operation. The
> OCR may start and stop early in the evening as collection volumes ramp
> up. *For this reason, I would expect the OCR volume-variability to be
> relatively high, but less than the BCS.* (Emphasis added)

USPS-T-16 at 40.

Witness Bozzo's OCR variability of 75.1 percent is much smaller than his BCS

variability of 89.5 percent. Almost one quarter, 24.9 percent, of OCR work hours must be

accounted for by over staffing in connection with the OCR's role as a gateway for

non-barcoded letters during startups. Witness Unger thought that roughly 5 percent of

OCR time might be accounted for by scheme changes. Under witness Degen's

hypothesis, the rest, about 20 percent, would have to be explained by deliberate

over-staffing "early in the evening."

Flat Sorting Machines (FSM)

> FSMs have some set-up costs. Unlike the BCS and OCR, the FSM does
> not have an output bin, but rather outputs flats directly to trays. Thus, trays
> must be labeled and placed at every run-out before the machine begins
> operation. FSMs are primarily used to sort First-Class Mail and Standard
> Mail (A). Classes of mail are not usually commingled prior to the incoming
> secondary sort so the FSM is frequently swept and then set up for each
> class. *Since the FSM has higher set-up costs and is human-paced, the
> volume variability of the operation would be expected to be lower than
> BCS.* (Emphasis added)

USPS-T-16 at 42-43.

The importance of setup costs for the FSMs is confirmed by Postal Service

operations witnesses who have suggested that setup times might account for 20 to 30

percent of total time. Witness Bozzo's FSM variability of 81.7 percent means that about

18.3 percent of FSM work hours need to be explained as fixed setup/tear down time, or

time spent by operators working below their optimal sustainable pace.

Letter Sorting Machines (LSM)

> LSMs have minimal set-up activities, but the sheer size of the crew means
> the initial start-up takes some coordination. *We would, therefore, expect
> less than 100 percent volume-variability, but not substantially less.* The
> Postal Service has largely phased out its LSM equipment. (Emphasis
> added)

USPS-T-16 at 40.

During their heyday the LSMs were the workhorses of the Postal Service's letter

processing so they are prominent in witness Bozzo's MODS data. One might have

expected the LSMs to have the same gateway role as the equipment that replaced them

but this is not mentioned by witness Degen. Unlike his other estimates, witness Bozzo's

variability of 95.4 percent for the LSMs does not indicate a great deal of non-variable

time, at most 4.6 percent. As noted by witness Degen, the high LSM variability now

applies to an LSM cost pool that has almost vanished. If correct, witness Bozzo's LSM variability of 95.4 percent would tend to confirm the proportionality assumption for LSM mail processing during the 1993 to 1998 period of the MODS sample.

Manual Flat Sortation

Manual flat sortation is performed using a case with a varying number of separations.

Cases are permanently labeled and require no set-up.

Manual flat sortation is worker-paced and productivity depends on discretionary effort and management attention. Manual flat sortation functions partially as a backstop operation because rejects require timely processing. Also FSM capacity is sometimes insufficient to handle the unpredictable volume of machinable flats.

Increased manual volumes will not result in proportional increases in set up, mail movement, or sweeping activities, so volume-variability should be less than 100 percent. (Emphasis added)

USPS-T-16 at 43.

Witness Bozzo's variabilities mean that workers manually sorting flats are idle or working at a slack pace at least 22.8 percent of the time. Since setup time is negligible, almost all of the slack time would have to consist of over-staffing to backstop the FSMs and time spent by employees working at less than their highest sustainable pace. It is also worth noting that the non-variable for manual flats is unexpectedly larger than the 18.3 percent fixed for FSM sorting. Witness Degen's testimony supplies no means to empirically verify so large an amount of non-variable time.

Manual Letter Sortation

Manual sortation operations are worker paced. Increased mail volumes create pressure to sort faster in order to meet dispatch requirements.

> Sweeping activity at the end of the operation is independent of volume – all separations must be swept. Manual sortation depends heavily on the discretionary effort of the employees and management attention. Manual sortation is a backstop operation in which automation rejects must be sorted in a timely manner to meet service commitments. *For these reasons we would expect volume variability to be less than 100 percent.* (Emphasis added)

USPS-T-16 at 41-42.

Under witness Degen's hypothesis, workers sorting letters manually are underoccupied at least 26.5 percent of the time. The portion of underoccupied time in automated and mechanized letter sorting operations are 10.5 percent (BCS) and 4.6 percent (LSM).

Manual Parcel and Priority Mail Sortation

Manual Parcel sortation is a low-volume operation. The set-up and take-down is largely independent of volume and is often a substantial part of the operation's workhours, depending on the number of separations and equipment availability.

> *In total, volume-variability of manual parcel sortation should be substantially less than 100 percent, primarily because set-up and take-down time are substantial relative to time spent actually sorting the parcels.* (Emphasis added)

Under witness Degen's hypothesis, workers sorting parcels and priority mail are engaged in fixed setup and shutdown activities 47.8 percent of the time. The closest comparable mechanized activity is SPBS with non-variable time of 35.9 percent. USPS-T-16 at 44.

Small Parcel and Bundle Sorter – Priority and Other

> The SPBS is operator paced. Jams are relatively infrequent.

The set-up and take-down time for the SPBS is substantial and varies with the number of bundles sorted. The overall degree of variability depends on length of run, *i.e.* the relationship between the fixed set-up and take-down time and the actual sorting time. *I expect that overall volume-variability should be substantially less than 100 percent.* (Emphasis added).

USPS-T-16 at 46.

Fixed setup and takedown time would have to be 35.9 percent of SPBS work hours.

Cancellation

The culling operation is a "gateway" operation that must process collection mail quickly so that it can flow to the outgoing sortation operations. As collection volumes arrive at the plant, the cancellation operation determines the sortation window. It is critical that the cancellation operation be fully staffed early and late in the operation.

Increases in total collection volume that exhibit the current time distribution will not increase cancellation hours proportionately because the full staffing early and late in the operation will not need to change – some of the waiting time will simply be converted to processing time.

The overall volume-variability of the cancellation operation will tend to be less than 100 percent because of its role as a gateway with varying vehicle arrival times and volumes of collection mail that cannot be forecast with certainty. (Emphasis added).

USPS-T-16 at 37-38.

The amount of "waiting time" that must be hypothesized for Cancellation is considerable. More than 45 percent of the man hours in Cancellation are spent "waiting" according to witness Bozzo's variability estimate of 54.9 percent and witness Degen's explanation of it.

    d.   Short-run and Long-run Variability

Time is the critical consideration in the Postal Service's argument that the characteristics of its mail processing and delivery networks cannot be adjusted in response to volume over the normal rate cycle. Because of this inflexibility, the Postal Service argues, its econometric models must focus on short-run volume effects. This assumption operates at two levels within the Service's derivations and explanations of mail processing variabilities. At the plant level it produces analyses, models, econometric estimates and explanations that presume that the organization of the work and the capital equipment found in the Postal Service's mail processing plants is fixed for the duration of a rate cycle. At the system-level it leads to calculations of volume-variability strictly from process-level equations in a way that presumes that the Service's network of processing plants is perfectly static. The system-level assumption that the Postal Service's variability arithmetic conceals is that volume changes are spread proportionately among the over 700 odd plants of the existing system.

Volume variabilities measured with the organization and capital of the mail processing system held fixed are different from the true variabilities of mail processing labor costs over the rate cycle because they fail to account for the indirect effects of changes in organization and capital on labor productivity. If the Postal Service's 73% is a valid estimate of the volume variability of work hours when capital is assumed to be fixed, then average labor variability with capital unconstrained would be even lower. This happens because labor productivity will diminish as the Postal Service attempts to increase piece handlings by adding labor with capital fixed. This results from the well-known economic law of diminishing returns. Conversely, if the Commission's 100% variability estimates are valid when capital is allowed to vary, then the average labor variability, when capital is assumed to be fixed, would be even higher. This is also a consequence of the law of diminishing returns.

The set of factors that witness Bozzo and Degen regard as fixed over the rate cycle is exceedingly broad. The following is only a partial list:

- Processing plants:

numbers, size, location, function (USPS-T-16 at 13-14)

- Processing plant characteristics:

    general congestion, square feet, distance between operations
    USPS-T-16 at 20, 51.
    number of floors,
    number of dock doors (USPS-T-16 at 20, 50)

- Equipment:

    containers, trucks (USPS-T-16 at 19, 39, USPS-T-16 at 42, 46, 50)
    type of machines (USPS-RT-5 at 12),
    number of machines, bins (USPS-T-16 at 42, 46, 50),
    size of containers, corrals (USPS-T-16 at 47),
    proportion of feeding and sweeping that is automated (USPS-T-16 at
    42-43),
    proportion of sorting that is not automated (Manual Ratio) (USPS-T-15 at
    24-25)

- Network Characteristics:

    number and size of mail aggregation centers (ADCs) to which each
    processing plant is linked (USPS-T-16 at 13, 18)
    number and size, distribution of delivery units a plant serves (USPS-T-16
    at 12-13, 19, 44)
    number and size of zones that a plant serves (USPS-T-16 at 19, 47)
    number and size of carrier routes that a plant serves (USPS-T-16
    at 19, 22)
    number of sort schemes used (USPS-RT-5 at 13; USPS-T-16
    at 19, 22, 43, 44, 47, 49)
    ratio of volume/sort scheme (USPS-T-16 at 49)
    proportion of mail volume that is local (USPS-T-16 at 18)

To contend that such a broad set of cost causing factors can't be adjusted in
response to volume changes that occur over a rate cycle is to take an extremely
short-run view that is not consistent with the record. The record indicates that the
number, size, and location of the various administrative units in its network, the machines
with which it equips them, and the resulting sort schemes that it performs are all
designed by the Postal Service as means for coping with volume. Over time, it can

adjust all of them to fit the amount of volume that goes through them. It is simplistic to assert that none of these adjustments can be made within the normal rate cycle.

The Postal Service's argument that it cannot adjust its processing and delivery networks to changes in volume over the three-to-four year rate cycle is largely conclusory. Perhaps the most concrete evidence that it offers in support of its conclusion is its assertion that it takes from six to nine years to construct a new processing plant from the time that it is proposed, and that over a rate cycle, few new ones are brought on line. USPS-T-16 at 15.

Even if the number of new processing plants expands slowly, the Postal Service has many less drastic ways to adapt its physical plant to changes in volume. Witness Kingsley lists a number of options that are available to the Postal Service as means of meeting its needs for more space. She testifies that the first option is to depart from the optimum model of centralized distribution of mail within an existing plant and disperse some processing operations into satellite facilities. The next best option is to "change mail flows and thus space required for the workload." In doing so, she testifies, the Postal Service makes every effort to keep Incoming and Outgoing Primary operations for all classes housed within the same plant. Incoming Secondary operations, however, can be farmed out to delivery units where there may be more space to house machines. If these measures aren't enough, according to witness Kingsley, a manager could try others, such as transferring processing responsibility for a 3-digit service area to a plant with more space, or consolidating processing of Priority Mail occurring in two plants into one.

If such measures still aren't enough, a manager could attempt to add space at a delivery unit to allow it to handle Delivery Point Sequencing and manual letter casing. Next he might try to expand the processing plant, many of which have been designed to be expanded through one wall. Finally, a manager could build or lease an Annex to provide the necessary space. Witness Kingsley testifies that annexes are often rented to handle short-term volume peaks, such as those encountered during the fall mailing season. USPS-T-10 at 32-34.

Clearly, these short-term expediencies for coping with inadequate space are available within the normal span of a rate cycle. Most of them, as witness Kingsley notes, depart from the optimum model of keeping distribution centralized within a processing plant. The longer-term solution that does not compromise efficiency is to build an entirely new plant. *Id. at* 35.

Use of such short-run methods of coping with inadequate physical plant is apparently common. For example, there are more than 60 annexes associated with its 250 automated processing plants. These short-term adjustments to the Postal Service's processing network often necessitate additional handlings of mail, as mail is moved between a main facility and annexes or satellites. They illustrate that volume-related "scale" effects that reduce processing efficiency as volume rises, and contribute to the diseconomies of scale that are observed in larger plants. Tr. 5/1998.

As with its physical plant, the Postal Service takes the position that its stock of mail processing equipment cannot be adjusted to changes in mail volume that occur over the rate cycle. This claim is not credible. To evaluate this claim, UPS witness Neels compiled a table. It shows the changes in the average number of mail processing machines of various kinds per processing facility that occurred over the FY 1993-98 period covered by witness Bozzo's data. He found that over this six-year period, the average had risen dramatically for the larger categories of equipment. For example, his table shows that the average number of Flat Sorting Machines (FSMs) had more than doubled, from 5.6 to 11.3, the average number of Delivery Bar Code Sorters (DBCSs) had almost quadrupled from 6.7 to 26.6, and the average number of Optical Character Readers (OCRs) had more than tripled, from 5.7 to 18.6. If one were to divide this period in half in order to approximate a rate cycle, each of these major equipment categories would still show growth of over 100 percent.[3]

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[3] Mentioning OCRs, witness Degen argues that some added machines are replacements for obsolete machines, rather than responses to higher volume. While OCRs do perform some of the functions of LSMs, the average facility lost 3.4 LSMs over the six-year period, while it gained 12.9 OCR/CSs. Tr. 27/12780.

Postal Service witness Unger provides additional evidence that the Postal Service adjusts the stock of mail processing equipment at a plant within the rate cycle. He testifies that the Postal Service monitors machine use closely, and will transfer a machine from a facility where it is underused to one with excess volume within 4-5 months after serving the appropriate notice. Tr. 21/8256.

Particularly relevant is the evidence that the Postal Service can change its basic operating plan for a particular mail flow within the span of a rate cycle. For example, the Postal Service expects that in the next three years it will transform flat sorting operations to resemble its highly automated letter sorting operations. This plan is, in part, a response to excess flat volume, since it is designed to end the chronic undercapacity that has plagued flat sorting operations. Tr. 21/8366. Beginning in the mid-1990s, before the plan to automate flat sorting operations was embraced, the Postal Service's method for coping with the chronic shortage of Flat Sorting Machines, was to "farm out" incoming secondary flat sorting to delivery units where it is performed manually. Tr. 5/1788. Witness Unger, speaking of the current shortage of FSMs, observed

> a final note should be made about increasing volumes where machine assets are limited. If an operation is using machines fully, and the machines can handle half the total volume, the other half must be worked manually. If there is workload added beyond that point, all the incremental workload must be worked manually, so that the percentage of total mail worked on automation actually drops.

USPS-ST-43 at 14.

Under the current method of operation, therefore, the marginal cost of sorting flats is the cost of sorting them manually. This is significantly higher than the average cost of automated/mechanized and manual processing combined. This is another example of scale effects that cause unit labor costs to increase rather than decrease.

In addition to machines, witness Degen argues that workhours depend on the number and kind of containers that are available to handle mail. For example, he argues that set-up and take-down time depends more on the number and size of containers

(bins, sacks, or hampers) that the worker must fill or empty, than on the volume of mail in those containers. USPS-T-16 at 39, 42, 46. This ignores the fact that the number and size of the containers are selected by the Postal Service to handle expected volumes going to particular destinations. The Postal Service has added bins to many of its OCRs and DBCSs. It is unlikely that it takes the Postal Service more than three years to add bins to one of these machines, once it has determined that they are needed. Tr. 7/3068-70. Nor is it credible that the Postal Service cannot acquire more or different sacks or hampers if volume increases sustained over three or four years indicate that they are needed.

It is significant that as the number of bins that are used on a sorting machine goes up, the productivity of the operation goes down proportionately. Tr. 5/1683. Not only do the need for more bins/sacks/hampers reduce the productivity of a sorting operation when it is running, they increase fixed non-processing tear-down time when the run is completed, according to witness Degen. USPS-T-6 at 39, 46. These affects are the direct effects of increasing the number of separations required of the operation. They are the indirect effect of higher volume, since higher volume makes a greater number of separations feasible. They provide a further example of scale effects that cause unit labor costs to increase rather than decrease.

    e.   Productivities and Returns to Scale

The labor and capital productivities, and returns to scale implied by witness Bozzo's model are readily derived from the information contained in his direct testimony in Table 6: Principal Results USPS Base Year Method. USPS-T-15 at 119-120 as revised 1/28/2000. These were previously shown as percentages in Table F-1. The labor and capital productivities are shown as percent elasticities in the table. The productivities, expressed as elasticities, are the percentage change in piece handlings that will result from a 100 percent change in work hours (with capital held fixed) and a 100 percent change in capital (with mail processing man hours held fixed). The returns to scale, also

expressed as an elasticity, is the percentage change in piece handlings that will result if labor and capital together are increased by 100 percent.

Witness Bozzo's fitted equations are derived demand functions for mail processing labor. They are short-run rather than long-run functions because they have been specified with an index of capital services rather than the price of capital (sometimes called the rental rate of capital) as an explanatory variable, and they have been estimated with the index of capital treated as predetermined. As long-run functions they would be miss-specified and misestimated since, in the long run, all inputs, including capital, are variable. To estimate long-run derived demand functions for mail processing labor witness Bozzo would either have to treat his capital index as simultaneously determined or replace it in the derived demand equations with the price of capital services.

In conventional micro-economic theory the derived demand for labor and other factors is the efficient response of a firm (or many firms) to factor prices and output levels. Neither the Postal Service nor the Commission believe that postal operations are conducted at minimum cost as a strictly correct application of conventional theory would require. Nevertheless, the Postal Service is obligated by its basic charter to adhere to the standard of "honest, efficient, economical management," 39 U.S.C. § 3621, and has adopted cost minimization as a basic strategy for coping with a perceived crisis of obsolescence in the era of electronic communications. *See* The United States Postal Service Five Year Strategic Plan, FY 2001-2005, at 18. Accordingly, conventional economic theory remains a relevant guide to understanding, interpreting and evaluating the testimony of Postal Service economics witnesses for reasons we described at some length in our R97-1 Recommended Decision. PRC Op. R97-1, paras. 4015-4052; *See* Docket R97-1, USPS-T11 at 13-20.

In conventional economic theory, outputs are related to inputs (factors) through a production function describing the combinations of inputs that may be used to produce outputs. These possible combinations are presumed not to be wasteful. Waste occurs if an input can be reduced without 1) reducing any output, and 2) increasing any other

input. Wasteful combinations of inputs do not appear on the production frontier described by conventional economic theory. The derived demand function of a firm is derived by finding the levels of the variable inputs that would minimize cost in the short or long run, subject to the constraint presented by the production function and, also, given 1) the output levels to be produced, 2) the prices of the variable inputs, and 3) the levels of any inputs that are fixed. If the analysis is sufficiently short-run, capital will be treated as fixed, as is assumed by witness Bozzo.

The last step in the derivation of the derived demand functions is to recognize that conceptually, the constrained cost minimization is a direct functional relationship between the solution levels of the variable inputs (factors) and the output levels, variable input prices and levels of fixed inputs that are the givens of the minimization. Witness Bozzo's derived demand functions for mail processing labor have all the essential components prescribed by their derivation at the plant/activity level. The dependent variables are the variable labor inputs measured in man-hours for the different mail processing activities at the plants associated with the MODS cost pools. The explanatory variables include 1) the intermediate outputs of the processes measured as pieces handled or fed, 2) an index of the wage rate for mail processors, and 3) an index of capital at the plant. The other explanatory variables in his equations are additional controls, some of which may vary with processing volumes.

The information about a firm's economic behavior embedded in its derived demand functions cannot conflict with the information about non-wasteful production possibilities contained in the firm's production function. In conventional theory the properties of production functions are described most fundamentally by input (or factor) productivities and by the return to scale. Productivities are the marginal rates at which the firm converts additional amounts of a single input or factor into an index of additional outputs. If there is only one output, such as the pieces handled or fed (TPH) in a specific process, the output index is simply defined as the quantity of the single output. Productivities can be expressed as unit-independent elasticities. For example, the productivity of labor in a postal processing activity can be expressed as the percentage change in TPH divided by

the percentage change in man-hours for the activity (HRS). Similarly, the productivity of capital in a postal processing activity can be expressed as the percentage change in TPH divided by the percentage change in witness Bozzo's index of capital (CAP). Return to scale is the percentage change in TPH that results from changing all inputs in proportion to their existing levels. For example, a return to scale of 130 percent for a postal processing activity means that if HRS and CAP are both increased together by 100 percent, the resultant increase in TPH will be 130 percent. Return to scale is the sum of the productivities, expressed as elasticities, of all inputs. Continuing the example, a labor productivity elasticity of 80 percent and a capital productivity elasticity of 50 percent will together produce a return to scale (when both are increased in proportion to existing levels) of 130 percent.

The labor productivity elasticities, capital productivity elasticities, and returns to scale for mail processing activities can be retrieved by performing some elementary arithmetic with witness Bozzo's estimates of variabilities and the capital elasticities of labor found in his Table 6. *Id.* The productivity elasticity of mail processing labor is the inverse of witness Bozzo's short-run volume-variability. The productivity elasticity of capital is the negative of witness Bozzo's capital elasticity of labor, divided by his variability. Return to scale is the sum of the two input productivity elasticities.

The labor productivity elasticities that emerge from the calculations for postal processing activities are surprising. All of the labor productivity elasticities exceed 100 percent, usually by a large margin.   A productivity elasticity in excess of 100 percent corresponds to an input whose marginal productivity is actually greater than average productivity for the amount of the input already consumed. If such productivities exist, the implications for mail processing labor work hours and short-run costs would be dramatic. With labor productivities this high, the Postal Service's unit mail processing labor costs would quickly approach zero as volume increases.[4]

If the labor productivity elasticities are surprising, the capital productivity elasticities that emerge from witness Bozzo's estimates are astonishing. All but one of them (for OCR) turn out to be negative numbers. The straightforward implication is that the Postal

Service is simply wasteful.   Waste occurs if an input can be reduced without increasing the amounts of other inputs and without reducing output. The negative productivity elasticities for capital mean that if the capital at postal processing plants is reduced, the result will be a higher level of piece handlings, with no change in mail processing work hours.

Another way to view it is that an increase in capital at a processing plant will increase the work hours that are needed at the plant to process the same volume of mail.   We do not have to compute the capital productivity elasticities to see that witness Bozzo's fitted equations (except for his OCR equation) have this peculiar property. All of the capital elasticities shown as percentages in the first table, as revised, are positive numbers except the capital elasticity for OCR, which is very close to zero. These capital elasticities are the percentage changes in HRS that would have to occur as the result of a 100 percent change in CAP in order to leave TPH unchanged. For example, a 10 percent reduction in CAP will allow the plant to reduce HRS for the BCS activity by 0.24 percent with no change in TPH. In fact, a 10 percent reduction in CAP leads to reductions in HRS for every activity except OCR. For OCR witness Bozzo's estimates imply that a very small increase, 0.03 percent, will be needed.

That there could be this degree of waste in most mail processing operations is utterly incompatible with the testimony of the Postal Service's operations witnesses. See, for example, the discussion of how the Postal Service plans to capture the savings made possible by the deployment of 175 new Automated Flat Sorting Machines (AFSM 100s).

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[4]   The implications can be illustrated with a simplified form of the Postal Service's statistical models of mail processing variability. At the operations level, the essence of the Postal Service's model can be expressed as ln (HRS) = a + b ln (TPH) + c Z, where Z is a vector of site-specific controls and b is variability. Taking the exponential of both sides of this equation yields $HRS = A * TPH^b$, where A is a constant that depends only on Z. Assuming, as the Postal Service's models do, that HRS is a proxy for short-run variable costs, C, and TPH is a proxy for volume, V, this equation becomes $C = A * V^b$. This implies that average cost for the operation is $C/V = A * V^{(b-1)}$. If b < 1, volume variability is less than one, and the equation then becomes $C/V = A / (V^{(1-b)})$. $V^{(1-b)}$ increases in V, because 1-b > 0. Equivalently, $V^{(1-b)}$ increases in V because 1/b, the productivity elasticity of labor, exceeds 100 percent. This means that no matter what the value of A is for a given facility, as the volume processed in that operation at that facility increases, its average cost will fall toward zero. The smaller b is, the more rapidly unit mail processing costs approach zero.

> In each facility, staffing is budgeted at least as stringently as dollars. Each plant and post office has an authorized complement of clerks, mailhandlers, carriers, and supervisors to do the work. Like dollars, complement is reduced when new equipment is brought into an operation. When the new AFSM 100 is deployed to a plant in the Southeast Area, that plant will lose authorization for both a certain amount of dollars annually and a certain amount of complement, and that loss will continue forward indefinitely.

> We operate with a 'complement ceiling' that is set for each facility and rolled up to each performance cluster. Each four-week accounting period, the actual staffing is compared to the authorized staffing, and performance clusters are not allowed to hire until they get below their complement ceiling. Our complement plans already take into consideration the anticipated arrival of the AFSM 100. Performance clusters will be held to the new, leaner complements from the day the machine starts running.

USPS-ST-43 at 8.

In hearings witness O'Tormey provided the Commission with the exact number of employees that the Postal Service expects a plant to shed per machine after the AFSM 100s have all been installed.

> Well, we have told the field our expectations are you are going to lose 23 employees per machine. That is our expectation, and to make your plans right now to use transitional employees under the labor agreement and to hold those positions pending reversion or abolishment.

Tr. 21/8374.

Witness O'Tormey's statement directly conflicts with witness Bozzo's model, which predicts that the amount of labor in a plant that gains an AFSM 100 will have to be increased for all but the OCR activity.

    f.   Consequences of Low Variabilities for Worksharing Programs

The Postal Service offers an array of discounts for worksharing by mailers for prebarcoding, presorting, or dropshipping their mail The discounts are intended to

equal the amount of costs avoided as a result of the worksharing activity. In this way, a customer that can perform a mail processing function at lower cost than the Postal Service will be given the proper incentive to do so. This approach should guarantee that the most efficient provider of the unbundled service does the work, whether it is the mailer or the Postal Service.

The costs avoided by worksharing are estimated through engineering studies. If the activity avoided is a mail processing step, the labor cost of that step is estimated and multiplied by a volume variability figure for that particular operation. Current estimates of avoided costs are based on the Commission's conclusion that labor costs in most mail processing operations are 100 percent variable with volume. Because the variabilities estimated by the Postal Service are dramatically lower, using them to estimate the costs avoided by worksharing would dramatically shrink the estimated costs avoided. This would require an equally dramatic reduction of the discounts offered for worksharing if they were to accurately reflect the underlying cost savings. The alternative would be to award discounts that deviate dramatically from the underlying costs saved. The Postal Service addresses this problem by proposing the latter approach. In Standard A flats, for example, the Postal Service's proposes to preserve discounts of approximately the same size as they have been in the past by passing through 230 percent of the costs saved in the Basic Automation category, and 500 percent of the costs saved in the 3/5-Digit Automation category.

Passing through such dramatically reduced cost savings is likely to decimate the Postal Service's current worksharing programs. If the low variabilities that the Postal Service estimates for mail processing labor are valid, passing through more than the cost savings would be counterproductive, since it would encourage a mailer to provide the unbundled service even when it was the less efficient provider. Since economic efficiency is the fundamental purpose of offering worksharing discounts, the Commission is not inclined to recommend, over the long-term, passthroughs that are substantially higher than the cost savings that they are supposed to reflect.

2.   Data, Model and Estimation Issues

     a.   Data Issues

Both USPS witness Bradley in R97-1, and witness Bozzo in R2000-1, make use of
data from the Service's Management Operating Data System (MODS). The MODS data
used in this docket are referred to as panel data. That is, it has the dimensions of a
cross section over mail processing plants and of a time series over the period from postal
quarter 2 of 1993, to postal quarter 4 of 1998. The number of observations is quite large.
This is an important advantage for several reasons. It makes it possible to fit equations,
such as the translogs used by witnesses Bradley and Bozzo, with large numbers of
variables because the loss of a degree of freedom for each estimated parameter is
comparatively unimportant. It can make it easier to extract useful estimates when the
variables are correlated in the sample. And, the coefficients (and variablities derived
from them) can be estimated to a higher degree of statistical accuracy even if the
equations do not predict work hours particularly well.

The MODS data as provided to both witnesses by the Service are seriously
error-ridden and both witnesses depended upon screens (called scrubs in R97-1) to
eliminate reporting errors and leave an acceptable sample for their econometric work.
PRC Op. R97-1, para. 3024. Witness Bradley's screens were analyzed in some detail by
the Commission in its R97-1 Recommended Decision. S*ee* PRC Op. R97-1, at
Appendix F at 25-34. They have also been examined, somewhat critically, by witness
Bozzo who concludes that they "are difficult to justify objectively" but "did not build any
obvious bias into his results." USPS-T-15 at 95. Witness Bozzo concedes that some
"selection criteria" are warranted because the MODS data contain "large (though
sporadic) errors," USPS-T-15 at 20, and that the removal of gross errors is defensible
and desirable. USPS-T-15 at 80-82. It was the Commission's understanding in R97-1,
and it remains the Commission's view now, that the screens must succeed in
substantially eliminating errors in piece handlings without introducing a selection bias,
and without systematically deleting valid but unusual observations from the sample. If

the screens fail to reduce observation errors in the piece handlings to negligible levels, the econometric methods employed by witnesses Bradley and Bozzo leave variability estimates with an errors-in-variables (attenuation) bias that cannot be ignored by the Commission. PRC Op. R97-1, para. 3024 and Appendix F at 26-27.

In R97-1 the Commission found that witness Bradley's screens were excessive and ineffective. PRC Op. R97-1, para. 3007. There was also evidence suggesting that the screens had created a selection bias. PRC Op. R97-1, para. 3024. The screens were excessive because they removed large numbers of observations (over 22 percent of the data), were not well designed for their stated purposes, and removed data that was not erroneous. PRC Op. R97-1, Appendix F at 31-34. They were ineffective because the screens did not effectively discriminate good from bad data. The Commission concluded that witness Bradley's screens left a selection bias because variabilities derived from his unscreened sample tended to be noticeably higher than those derived from the screened sample. PRC Op. R97-1, para. 3024.

Witness Bozzo has employed a different set of screens than those of witness Bradley. USPS-T-15 at 94-115. These consist of a threshold screen that deletes observations with no more than 40 work hours, a productivity screen that eliminates observations lying outside predetermined ranges for piece handlings per work hour, and a screen that eliminates all of the observations for a plant if there are less than eight observations altogether or fewer than six that are sequential. This last screen is not really a screen for erroneous data. The limits for the productivity screen are based upon staffing standards, productivity statistics and informed judgment. These screens are better conceived for their purpose and do not leave the same evidence of selection bias as witness Bradley's R97-1 screens.

However, they are less effective, first, because they were applied after the MODS data had been aggregated by postal quarters, and, second, because they were designed not to be excessive. Witness Bradley applied his screens to the MODS data for individual postal accounting periods while witness Bozzo applies his screens after the data has been aggregated by quarter. Postal quarters are combinations of 3 and 4

consecutive 4-week accounting periods. Aggregation of the MODS data is somewhat wasteful of information for reasons described by witness Greene; however, this aggregation is far less wasteful than some of the proposals of other witnesses. USPS-RT-7 at 5-6. Both witnesses Bozzo and Bradley screened the data after it had been aggregated into processing subgroups but witness Bozzo further combines two of the subgroups to get his single SPBS activity. The MODS data are actually derived from reports collected by the Postal Service at a much finer level of detail and were first aggregated even before being given to either witness. UPS witness Neels has described in testimony how aggregation masks reporting errors leaving them undetectable by the screens. UPS-NOI/POIR-T-1 at 21-22 and Tr. 46E/22323.

Witness Bozzo's screens are also not designed to eliminate all suspect observations. Instead, his procedures are "designed to use as much of the available data as possible without admitting seriously erroneous observations." USPS-T-15 at 21. Therefore, witness Bozzo's screens seem much less likely than witness Bradley's to delete observations that are actually correct but just unusual. Witness Bozzo does not claim that his screens remove all erroneous observations. However, he asserts that the errors that remain will be either small and random, or "systematic," meaning that the errors are common to all observations for a site or for a time period. USPS-T-15 at 22.

Almost nothing definite is known about the reporting process that has produced the errors and omissions in the MODS data. However, UPS witness Neels has examined the MODS data as they are supplied to witness Bozzo and he has been able to evaluate the effectiveness of witness Bozzo's screens. Tr. 27/12796-802, Tr. 46E/22285-91 and *Id.* at 22322-48. Observations with impossible negative values and/or impossible magnitudes for work hours and piece handlings are surprisingly common, prompting witness Neels and OCA witness Smith to conclude that the MODS reports are not field-checked for errors as the data are assembled. OCA-T-4 at 24, OCA-RT-4 at 4 and Tr. 46E/22331. There are also many occasions when an observation combines positive man-hours with zero piece handlings and vice versa. Virtually all negative observations, zero-valued observations and observations with impossible magnitudes are treated as either missing

or erroneous by witness Bozzo's screens. Witness Neels has testified that the very presence of so many easily detected gross errors reveals the presence of an unknown process contributing reporting errors to the MODS data. These reporting errors will not necessarily be gross enough to be detected by the screens. Consequently, it is impossible to confirm witness Bozzo's claims that his screens have largely eliminated the erroneous observations and it is highly improbable that they have actually done so. Nor is there any way to verify that the remaining errors are "systematic" or independent.

The MODS data includes many instances in which the number of pieces handled (TPH) exceeds the number of pieces fed (TPF), often by a large amount. TPF minus TPH is the number of pieces that are not successfully processed by the operation. It cannot be a negative number. As before, the presence of so many gross errors discloses an unknown error process that also contributes undetectable errors to the observations of piece handlings. Witness Bozzo replaces the value for TPF with the value for TPH whenever TPH is larger than TPF. This rule will always leave a value of TPF with an error. If TPF is correct in the first place, it is replaced by an erroneous value for TPH. If TPF is incorrect, the replacement with TPH still omits an unknown number of unsuccessfully processed pieces even if TPH is correct.

The MODS data includes values for first piece handlings (FHP) that correspond by site, date and activity to the observations in witness Bozzo's sample. When these FHP values are compared to TPF or TPH, more anomalies are found. TPF and TPH should equal or exceed FHP, which is a count of pieces in their first processing operation. However, there are many instances in which FHP is substantially larger than either TPH or TPF. This is evidence of measurement error but it is impossible to judge from the sample which of the piece handling values is wrong. Witness Bozzo's screens make no use of FHP.

Witness Neels has found other disquieting characteristics of the MODS data that have been ignored by witness Bozzo. There are time gaps in the reporting of work hours and piece handlings for activities at some facilities. Such gaps are not necessarily missing observations, they can be valid observations of an activity that is present at a

facility but not used. However, witness Neels suspects that the first nonzero observations after a gap in the data are atypical. Witness Bozzo does not examine gaps in the data and his screens simply treat all zeros as missing observations. Witness Neels suspects that some of the anomalies in the MODS data are work hours or piece handlings that were recorded under the wrong activity code. Such errors would never occur alone. They would always be accompanied by offsetting errors during the same quarter at the same site but in a different activity. According to witness Neels "a careful look at the TPH series for Manual Parcels and SPBS reveals that the data for the two are sometimes commingled." This explains a "significant fraction" of the gross errors in Manual Parcels. Tr. 27/57. Witness Bozzo's screens do not account for offsetting errors and witness Bozzo denies that any commingling has occurred. USPS-RT-6 at 30-31. Witness Neels' examination of the MODS data also has turned up "implausible combinations" such as sites reporting OCR activity without a bar code sorter being present and sites reporting only mechanized sorting. Tr. 27/12783.

It is the Commission's opinion that witness Bozzo's screens are incapable of removing more than just the most apparent erroneous observations for piece handlings and work hours. We have concluded that a considerable amount of error remains in both piece handlings and work hours in witness Bozzo's MODS sample.

USPS witness Greene has testified that, in many respects, witness Bozzo's screens should not be a cause for concern even if they are not particularly effective. "Data that contain recording errors and other obvious flaws must be cleaned before being used. The samples used were large to begin with, and remained so after the trimming operations. By and large the trimming operations were innocent." "The received theory suggests that the problems created are likely to be small." USPS-RT-7 at 19. "The screen was intended to provide complete and appropriate data, not data free of measurement error." USPS-RT-7 at 22. "Discarding observations based on values of the output variable is similar in its impact to throwing away observations randomly." USPS-RT-7 at 16. From this we conclude that reporting errors left in witness Bozzo's dependent variable, work hours, would not bias his estimated variabilities if the deletions

were made for reasons that were independent of work hours, and that the reduction he makes in the sizes of his large samples are not a serious handicap. Witness Bozzo also claims that the effects of systematic errors would be largely eliminated by his specifications of fixed effects and trends. USPS-T-15 at 22. However, non-systematic errors left in the explanatory piece handlings variables will cause an errors-in-variables bias in the estimated variabilities. Witness Greene has testified that straightforward analytic results describing the errors-in-variables bias are only available for models that are much simpler than those employed by witnesses Bradley and Bozzo. USPS-RT-7 at 21-26 and Tr. 46E/22099-22100. Even the direction of the bias is apparently uncertain for these models.

Estimates with an unknown bias should not be confused with unbiased estimates. A bias that is unknown in sign and magnitude cannot be disregarded as is recommended on brief by the Postal Service. USPS Brief at V-54. The practical import of witness Greene's testimony is that there is no way to adjust the variabilities derived from the fitted equations for an errors-in-variables bias. Consequently, the Commission must satisfy itself that the sample has been cleared of erroneous observations at least to the point that the bias resulting from any remaining errors in the piece handlings variables are negligible.

In practice, the formal requirement that the explanatory variables be free of measurement error need not be strictly met. USPS-RT-7 at 25. Specifically, if the errors in the observations of explanatory variables such as piece handlings are relatively small then the bias imparted to the estimates by the failure to remove all of the erroneous observations will be correspondingly small. Witness Greene has computed "reliability ratios" of 0.950 for manual flats and 0.826 for manual letters from examples derived from witness Bradley's testimony and cited in PRC Op. R97-1. USPS-RT-7 at 26. The reliability ratio is the square of the correlation of the explanatory variable, as measured, with its true error-free value. It can be seen from witness Greene's mathematics that the reliability ratio is the same as the errors-in-variables bias for the single-variable linear model. USPS-RT-7 at 22, 24 and 25. That is, if the true variabilities were one, least

squares fits with a simple model would produce variability estimates centered around .950 for manual flats and .826 for manual letters rather than one. Errors-in-variables biases of this magnitude are large enough to materially affect attributable costs. If reliability ratios were indicative of the magnitude of the bias to be expected from errors in the independent variable, they demonstrate that such bias is very substantial in some operations. The Commission concludes that witness Bozzo, like witness Bradley in R97-1, is not able to sufficiently screen reporting errors in piece handlings out of the MODS data supplied by the Postal Service to estimate mail processing volume variabilities with a negligible errors-in-variables bias.

With the completion of this case the Commission has now spent many hours over the course of two rate proceedings trying to evaluate conflicting evidence regarding the actual impact of errors-in-variables on estimates of variabilities made by Postal Service witnesses. It appears to the Commission that the reason that this issue is so difficult to resolve is that, ultimately, Postal Service econometricians have no direct and convincing way to demonstrate that their scrubs and screens are effective. More and more we find ourselves in agreement with an observation made by OCA witness Smith "Scrubbing is not an adequate substitute for on-site verification." OCA-T-4 at 25. This is an observation that we hope the Postal Service will remember in the future as it assembles data from MODS and other postal data systems for use by its econometricians.

b.   Modeling Issues

In our R97-1 Recommended Decision we cited the benefits to be expected from research that properly combines economic and econometric theory. These are: 1) economic theory defines the true economic relationship from which volume variabilities are derived, 2) econometric theory prescribes methods for retrieving the most accurate and unbiased estimates, and, 3) both bodies of theory provide measures to assess the empirical validity of the estimated relationship. PRC Op. R97-1, Appendix F at 4-5.

In R97-1 witness Bradley described his model as a "cost equation" without providing the underlying theory. PRC Op. R97-1, Appendix F at 7-8. The Commission thought

that his equations were best interpreted as under-specified derived demand functions for labor. PRC Op. R97-1, paras. 3043, 3049 and 3050. Witness Bozzo has now correctly identified the estimated equations as short-run derived demand functions for labor (work hours), expressed as functions of intermediate outputs (piece handlings) at the process level. USPS-T-15 at 44-45. Witness Bozzo asserts that mail processing operations are "nonjoint in inputs" and have a single intermediate product, namely, the number of pieces fed. USPS-T-15 at 43. If correct, this means that mail processing operations can be represented by separate conventional production functions with respect to inputs and outputs, as witness Bozzo has done.

In our R97-1 Recommended Decision we noted that witness Bradley's cost equations were under specified because they omitted variables prescribed by conventional economic theory. PRC Op. R97-1 at 3042 and 3049. Witness Bozzo agrees, "my results indicate that Dr. Bradley's Docket No. R97-1 mail processing models for the operations I studied were under specified." USPS-T-15 at 127.   Witness Bradley's cost equations omitted the wage rate and any controls for capital or the price of capital services (sometimes called the rental rate of capital). The cost equations also omitted controls for network effects that witness Bozzo considers essential. USPS-T-15 at 47 and 49. According to witness Bozzo, these omissions of variables meant that witness Bradley's variability estimates had an omitted-variables bias "to some degree." USPS-T-15 at 127. Witness Bozzo avoids this source of bias by including in his own equations the average wage rate, a measure of the size of the network served by the facility, and an index of capital at the facility in the equations he fits.

The MODS data set alone does not provide enough information to fit a fully specified model.   Witness Bozzo has augmented the MODS data set by matching the observations of work hours and piece handlings with observations for the average wage rate, the number of possible deliveries and zip codes, and a capital index derived from Postal Service records of space and equipment at processing plants. USPS-T-15 at 88-94. The MODS data are process-level aggregates of reports by 3-digit codes organized into ten processing groups. Witness Bozzo also combines SPBS Priority and non-Priority into a

single SPBS activity. However, the information added by witness Bozzo is entirely in the form of plant-level indices and averages.   These indices may not be characteristic of particular processes. For example, witness Bozzo's capital index may not represent very accurately the floor space, equipment and other capital used in any specific process at a facility. Possible deliveries, his network variable, may only apply to incoming sorts. And, finally, the number of possible deliveries may not be a very accurate measure of the depth of the sort performed in different activities over the time spanned by his sample, or for any of the other network effects he lists. USPS-T-15 at 47-49.

Witness Bradley's cost equations were specified in a way that captured the response of labor hours to piece handlings over a span of only two postal accounting periods (eight weeks). PRC Op. R97-1, para. 3007 and 3035. This was much too short a span to capture the effect desired for postal rate decisions, which is the longer run response of labor hours to piece handlings over a period of time that approximates the postal rate cycle of three to four years.   According to witness Bozzo, adjustments of labor hours to volume at a facility may take up to a year. USPS-T-15 at 17-18. Witness Bozzo's equations have been respecified by aggregating the MODS data to postal quarters and by including as variables the lagged values of piece handlings up to and including the same quarter last year. Thus his equations are capable of capturing responses over a span of six quarters. This is not as long as a postal rate cycle but it is still a considerable improvement over witness Bradley's eight weeks.

On the whole, witness Bozzo's derived demand functions and estimates raise fewer modeling issues than witness Bradley's cost equations. However, there remain several aspects of witness Bozzo's model that have been criticized by other witnesses. First, witness Bozzo defines a plant-wide index of capital, which he treats as predetermined. This capital index has also been criticized as being poorly defined and endogenous, that is, codetermined with labor hours. Second, witness Bozzo continues to use witness Bradley's manual ratio, the ratio of manual piece handlings to total piece handlings in substitute manual, mechanized and automated operations. The manual ratio has also been criticized as being badly defined and endogenous. Third, witness Bozzo continues

witness Bradley's R97-1 use of fixed effects to account for level differences between plants over the sample period. The fixed effects are problematic because the causes of level difference between plants are unknown but may be somewhat under the control of Postal management. This would make the fixed effects endogenous. Fourth, witness Bozzo's trans-log equation is not the only model consistent with economic theory that can be fit to his sample.

Endogenous variables are variables that are simultaneously determined in equations from the same conceptual model. For example, the capital services that the Postal Service uses in mail processing have their own derived demand equations that are other parts of the conceptual economic model that produces witness Bozzo's derived demand functions for mail processing labor. Witness Bozzo's declarations that capital services are predetermined bypasses an estimation problem that has generated a vast econometric literature since the discovery, shortly after World War II, of a simultaneous equations bias in ordinary least squares (OLS) estimates. In some ways this bias is like the errors-in-variables bias because its source is the presence of the error from the simultaneous equations in the observations of the endogenous variables. When an endogenous variable, like capital, is included in an equation, special simultaneous equations techniques must be used to obtain consistent estimates (those that lack persistent bias).

Witness Bozzo's assumptions that capital, the manual ratio and fixed effects are exogenous has been noted in the testimony of witness Neels. Tr. 46E/22280, 22282 and 22285 and witness Smith Tr. 46E/22366. Other witnesses have responded to the Commission's NOI 4 with estimates and tests showing that witness Bozzo's model is inferior to other models that might be fit by econometric methods to provide estimates of mail processing volume variabilities. The witnesses who have fit more general models in response to NOI 4 are MPA *et al.* witness Elliot in Tr. 43/18651-60, witness Neels in Tr. 46E/22267-98, and witness Bozzo in Tr. 46E/22147-22200.

Witness Bozzo regards postal capital as a "quasi-fixed" factor. He says "My estimate of the volume variability of labor hours in an operation is conditional on the level of capital

in place in the current period." USPS-RT-6 at 48-49. In his defense of this assumption he cites the testimony of USPS witnesses Degen, USPS-T-16 at 15, and Kingsley, USPS-T-10 at 11. "These responses make it clear that there are long lead times between investment decisions and the appearance of new plants and equipment on the workroom floor." USPS-RT-6 at 36.

The assumption made elsewhere in postal costing is that mail processing capital is volume variable over the rate cycle. Therefore, witness Bozzo's assumption that his index of capital is predetermined is not consistent with the Service's own methods for calculating volume-variable costs. It also conflicts with testimony given by the Postal Service's operations witnesses. It is clear from this testimony that the equipment at a typical mail processing plant can be changed in response to a permanent change in volume in considerably less time than a full rate cycle (three to four years).

Witness Bozzo's capital index is a plant-level measure that may not represent very well the capital that is used in specific processes. Witness Bozzo's model formulation depends upon mail processing being separable into a set of activities with distinct intermediate outputs and dedicated inputs of labor and capital. If processing activities are nonjoint in inputs as he claims, then his capital indices should be distinct process-level measures of the capital input for each process. In addition to being too generally defined, witness Bozzo's capital index is subject to a number of familiar measurement problems as noted by OCA witness Smith. OCA-T-4 at 18-19. Witness Smith also points out that the capital index does not account for excess capacity.

Witness Neels offers several reasons why the mail processing operations at a single plant are interdependent, and not independent as represented by witness Bozzo's equations. First, staffing in opening units is driven by the need to perform downstream operations in the available time window; second, facilities possess parallel operations and mail is allocated in a "highly dynamic" way among the parallel operations; third, sequential processing steps must be determined in such a way as to provide for the smooth and efficient flow of mail through the plant and the rest of the system; and fourth,

processing activities are housed in the same plant and rely upon a shared workforce. Tr. 27/12793-95.

The presence of the manual ratio among witness Bozzo's list of explanatory variables makes the derived demand for labor in a process a function of piece handlings in substitute processes. However, the manual ratio is a problematic way to represent these interactions for two reasons. First, it is a single simple variable that will scarcely begin to represent the complex interdependencies suggested by witness Neels testimony. Because of this witness Neels believes that process-level models are ill conceived. "I do not believe that, with the information available, it is or will be possible to capture in a MODS pool analysis the effects of the rich set of interactions that occur within a mail processing plant." *Id. at* 72. Second, the manual ratio is determined, in part, by the decisions and actions of postal managers. For example, if manual processing is used as a backstop to mechanized or automated processing, then the manual ratio will partly reflect the deliberate decisions of management regarding the extent to rely upon the backstop manual operation. This is inconsistent with witness Bozzo's treatment of the manual ratio as predetermined.

In our R97-1 Recommended Decision we cited evidence that witness Bradley's fixed effects were likely to be unintended proxies for overall size and volume differences between processing plants. PRC Op. R97-1, Appendix F at 41-45. This remains true of witness Bozzo's fixed effects although the presence of additional explanatory variables in his model somewhat reduces the risk. Witness Bozzo hypothesizes that the fixed effects compensate for systematic errors. USPS-T-15 at 70. If the systematic errors were entirely in work hours and if this was all that the fixed effects represented, then they would not be a source of much concern. But there is no way to determine if this is all that the fixed effects do. Other possible causes for witness Bozzo's fixed effects are not so innocuous, particularly if these causes make the fixed effects endogenous.

The difficulty with the fixed effects is that they are statistically important but of unknown cause. The fact that they explain level differences between plants during the sample period refers to an assumed mechanism but says nothing about the true causes.

Witness Bozzo defends his use of fixed effects as a means to avoid an omitted variables bias when site specific differences cannot be represented by relevant explanatory variables. USPS-T-15 at 68. Witness Bozzo's specification tests establish with little doubt that the fixed effects are statistically significant under the assumption that his model is correct. USPS-T-15 at 123-124. In R97-1 testimony it became clear that witness Bradley's fixed effects were likely to be acting as proxies for Postal Service capital allocations. It was also established that the fixed effects were correlated with volume. Virtually all of the Commissions' suspicions regarding the true nature of witness Bradley's fixed effects remain true of witness Bozzo's. In addition, witness Neels has now pointed out that the fixed effects will also be endogenous if they turn out to be proxies for management decisions with respect to plant size and configuration.

Both witness Bradley and witness Bozzo use restricted translog equations. Witness Bozzo uses the translog because it is a "general second order approximation" for the labor demand function. USPS-T-15 at 65-66. Witness Bozzo's translogs are less restricted than witness Bradley's because they include more, but still not all, of the possible interaction terms. Witness Bozzo considers both volumes and network characteristics to be the principle cost drivers while witness Bradley considered only volume. Witness Bozzo's chooses TPF as the best measure of output among several alternative measures of piece handlings since it includes rejects as well as successful handlings and because it is based upon piece counts for automated operations. USPS-T-15 at 51-52. He finds that possible deliveries is the most effective variable (among those for which he has data) for representing network characteristics. It does not appear that witness Bozzo explored alternatives to the translog although simpler functional forms have a long record of successful use in demand studies.

Witness Bozzo's reasons for adding network characteristics are that the network will affect the length of processing windows, the complexity of processing schemes, the labor needed for setups and takedowns, and the role of an operation as a gateway or backstop operation. USPS-T-15 at 47-49. It is unlikely that witness Bozzo's network variable, possible deliveries, captures all of these effects on work hours. Some of

these effects, however, are likely to be already present in the piece handlings variable. If possible deliveries captures them, it is improperly defined.

In general, the variables witness Bozzo's adds to the set used by witness Bradley are not specific measures of the effects that witness Bozzo wants them to represent. The wage rate and the capital variable are a plant-level average and a plant-level index. Possible deliveries is also a plant-level variable. None of these variables may accurately reflect the wage rate, inputs of capital services and network effects that apply to a specific process.

Several of the respondents to the Commission's NOI 4 discovered that a more general model, created by adding time-indexed fixed effects, was statistically superior to witness Bozzo's model. Witness Elliott's response is the most straightforward. MPA-ST-2. In it he shows that conventional F tests derived for a general model with both time- and site-indexed fixed effects lead to the rejection of nested models lacking one or the other of the fixed effects. MPA-ST-2 Attachment 1. Witness Neels and witness Bozzo reach the same conclusion with different tests; however, witness Bozzo does not conduct any test that leads to rejection of his own model. In his response to NOI 4 witness Greene points out that the more general model is superior because it "provides consistent (lack of persistent bias) estimates of the parameters of the model while the alternatives do not." USPS Responses to Questions b and f.   All of the fits of more general models show that omission of the time-indexed fixed effects would have little impact on the variabilities derived from the model but that the omission of the site-specific fixed effects would have a very substantial impact on the variabilities. MPA-ST-Tr. 4/18659, Table 2, USPS Table 3 at 13 and Tr. 46E/22291.

All of this suggests to the Commission that witness Bozzo did not make the effort to thoroughly explore all of the possibilities for specifying and fitting a suitable model with his MODS data set.

c.   Estimation Issues

No party in this proceeding has asked the Commission to accept volume variabilities estimated by eye from "simple unadorned plots" or by treating data by any other non-econometric means. Nor did the Commission rely upon such plots and means in reaching the conclusions found in the R97-1 Recommended Decision. The Commission believes that econometric methods properly applied to correctly formulated economic models with a reasonably complete and error-free data set is the only way to obtain accurate and unbiased estimates of structural parameters such as volume variabilities. We find it difficult to believe that USPS witnesses USPS-T-15 at 31, at 59-64 and USPS-RT-7 at 36-38 could have read through our R97-1 Recommended Decision and reached another conclusion.

Witness Bozzo's model has been fit to data for several kinds of mail processing operations by a method known as Feasible Generalized Least Squares (FGLS). USPS-T-15 at 118. The method and its application to panel data are described in detail in a standard modern econometrics textbook authored by witness Greene William H. Greene, Econometric Analysis, 2nd Edition, MacMillan, NY, 1993, Chapter 14. The method is an efficient and consistent estimator of the parameters of a linear equation under the assumptions (among others) that there are no errors in the explanatory variables and that the explanatory variables are uncorrelated with the equation errors. The method is often preferred to ordinary least squares (OLS) because it is a more efficient estimator in the presence of correlations and unequal variances among the equation errors. Since witness Bozzo's fitted equations give evidence of autocorrelation, the FGLS estimator is a better choice than OLS.

Witness Bozzo's model and data set violate the assumptions for the FGLS estimator in several identifiable ways. First, witness Bozzo's screens leave non-negligible errors in the measurements for piece-handlings. Second, witness Bozzo calculates his facility wage rate by dividing wages by work hours. This calculation produces a wage rate that is correlated with the error in work hours, his dependent variable. Third, several of witness Bozzo's explanatory variables are codetermined with work hours over periods of

time approaching the rate cycle. These variables are the manual ratio and witness Bozzo's index of capital. It is also possible that witness Bozzo's fixed effects are codetermined with work hours. This will occur if the fixed effects in fact represent the results of management decisions determining the size and organization of processing facilities. Fourth, the fixed effects and the variables added by witness Bozzo to witness Bradley's model may be very imperfect proxies for variables that have been omitted.

The penalty that is paid for the failure of these assumptions is that FGLS becomes an inconsistent estimator. The estimates have biases that persist despite the large size of the sample. Errors in the measurements of piece handlings and other explanatory variables leave the much-discussed errors-in-variables bias. If an explanatory variable is correlated with the equation error, this will also leave biases in the coefficient estimates. When the dependent variable and explanatory variables are codetermined, the result is a well-known simultaneous equations bias. Observations of codetermined variables must contain their own equation errors so a simultaneous equations bias is similar in many ways to an errors-in-variables bias. Finally, omitting variables leaves the omitted-variables biases referred to by witness Bozzo. USPS-RT-6 at 5.

The Commission has received conflicting testimony on the merits of witness Bozzo's econometrics from several witnesses, including witness Bozzo himself, witness Greene, UPS witness Neels and OCA witness Smith. Many of the kinds of faults found in witness Bozzo's data, models and econometric methodology can be identified in other econometric testimony that has been presented to the Commission. Witness Bozzo's liberties with the requirements for a strictly proper application of the FGLS estimator are not automatically excessive in this context. It has also long been known that minor failures of the assumptions typically have minor consequences. Witness Greene's testimony about the magnitude of an error-in-variables bias extends generally to the other kinds of violations. For example, if an omitted variable is comparatively unimportant the bias that results from its omission is likely to be comparatively small. On the whole, however, the testimony in this proceeding supports a finding that the

econometrics is flawed, particularly with respect to the selection of variables for the models and the errors in the observations of piece handlings.

It is not necessary for the Commission to look behind witness Bozzo's model and estimation methodology to see that something has gone seriously wrong. The most direct evidence is in the estimates themselves. The finding that his results are fatally flawed can be reached by inspecting his estimates of the elasticity of work hours with respect to his index of capital. USPS-T-15 Table 6 at 119-120 revised 1/28/00. All-but-one of the capital elasticities for the ten processes he treats are positive numbers. Seven of these positive elasticities are statistically significant at confidence levels that exceed 95 percent. The sole negative elasticity (OCR) is close to zero and statistically very insignificant. Elasticities between substitute factors of production such as labor and capital must be negative numbers. When three or more inputs are present, two may be complements and have positive cross elasticities, but this is certainly not the case with labor and capital in mail processing.

Witness Bozzo's estimates are nonsensical because they imply that the Postal Service can simultaneously reduce both capital services and labor hours throughout its mail processing facilities without reducing piece handlings. The elasticities for capital that he estimates say that the floor space, processing equipment and other capital inputs included in his index of capital can be reduced, and work hours can also be reduced for every mail processing activity except OCR (where work hours must be increased only slightly), without any change in the piece handlings for these activities. Looking backward his estimates say that the Service's substantial net investments in space and automated equipment at processing plants during the sample period actually increased the work hours required to process the same volume of mail at these facilities.

The result is incompatible with basic production theory. The conflict with basic production theory occurs because witness Bozzo's results depict input/output combinations that cannot occur on a firm's production transformation function among substitute inputs. To accept witness Bozzo's estimates we must be prepared to believe that the Postal Service's mail processing plants are so extraordinarily wasteful of both

labor and capital that both inputs can be reduced together without affecting piece handlings. We do not believe that postal management could have been this inefficient in the recent past or is this inefficient at present. It is witness Bozzo's estimated derived demand equations that must be wrong.

The Commission cannot cherry-pick the volume variabilities from these equations and expect them to be right when the capital elasticities found in the same equations are so plainly wrong. In fact, one of witness Bozzo's coefficients is involved in the calculation of both the variabilities and the impossible capital elasticities. That is the coefficient for the cross product lnTPH lnCAP (subscripts omitted) in his translogs. USPS-T-15 at 117-18.

d. Reliability Issues

To evaluate estimates derived from econometric applications the Commission relies not only upon the usual statistical measures of goodness-of-fit and significance, but also upon less formal demonstrations that the estimates are robust and stable. In practice these demonstrations of robustness and stability usually take the form of comparisons of results between alternative models, data sets or estimators. Variability estimates that are robust and stable are highly desirable because such estimates may often be relied upon without necessarily verifying in detail that the selected model, data set and estimation method are precisely correct. In addition, a reasonably exhaustive demonstration of robustness and stability should show that the estimates have been drawn from a model that has no easily identifiable superior.

In our R97-1 Recommended Decision the Commission concluded that there was too little evidence to reach a firm conclusion regarding the robustness and stability of witness Bradley's variabilities. PRC Op. R97-1, para. 3025. Variations in witness Bradley's model and data set produced a wide range of variabilities (PRC Op. R97-1 at 3014), but all of the models involved in these comparisons, including witness Bradley's, had disqualifying defects PRC Op. R97-1, para. 3018. Furthermore, witness Bradley's research fell short of performing all the explorations and tests that would be needed to

Table F-2
Sample of Econometric Variabilities (%) on the Record

Cost Pool	Bozzo Model A (1)	Bozzo Pooled Model (2)	Bozzo Between Model (3)	Neels with MODS Level Correction (4)	Neels with Shape Level Correction (5)	Elliot Model A Site Effects (6)	Elliot Model B Time Effects (7)	Elliot Pooled Model (8)
Auto/Mech.								
BCS	90	93	104	187	185	85	103	103
FSM	82	91	103	126	108	64	104	104
LSM	95	92	91	102	197			
OCR	75	86	110	120	155			
SPBS	64	72	89	135	135	67	87	87
Manual								
Flats	77	84	96	78	102	52	94	95
Letters	74	85	91	90	152	59	91	91
Parcels	52	65	73	135	135			
Priority	52	64	75	53	53			
Composite	77	86	96	120	139	66	96	97

Sources:

(1) USPS-T-15 at 119-120
(2) USPS-T-15, Appendix F
(3) USPS-T-15, Table E-1/2 at 153-54
(4) Bozzo's Model A with Neels' MODS Level Adjustment Factor. Tr. 27/12834
(5) Bozzo's Model A with Neels' Shape Level Adjustment Factor. Tr. 27/12834
(6), (7), & (8) Tr. 43/18659

establish robustness and stability PRC Op. R97-1, Appendix F at 5.   The Commission

concludes that the econometric evidence did not rule out the possibility that mail

processing variabilities approximated, or even exceeded, 100 percent. PRC Op. R97-1

at 3027.

Virtually the same conclusions apply to the even smaller set of results comprising

witness Bozzo's new variabilities and the variabilities derived from other models

submitted during the current proceeding. These variabilities are all shown in Table F-2.

In the present case witness Bozzo's explorations of alternatives are also too limited to

provide a basis for concluding that his variabilities are robust and stable in all important

respects. The evidence presented in this case suggests, but does not fully demonstrate, that witness Bozzo's variabilities are robust and stable with respect to his method of calculation, his screens of the MODS data, and his treatment of effects over time and autocorrelation. With respect to the site-specific fixed effects, his estimates appear to be no more robust and stable than witness Bradley's. Witness Bozzo's research does not provide much evidence of robustness with respect to other aspects of his model, sample and methods. The variabilities taken from all of the models still span 100 percent, and none of the models are free of serious technical defects.

Witness Bozzo's equations seem to fit well. The test statistic that measures general goodness of fit, adjusted R-squared, is above 0.93 for all of his equations, and all of his standard deviations are no larger than several percentage points [USPS-T-15 Table 6 at 119-20, revised 1/28/00] which means that the true volume variabilities cannot differ very much from his estimates if his model and estimation method are correct. If the model or estimation method are incorrect, then the test statistics and low standard deviations just convey a false sense of security.

His estimates of variabilities are:

- only slightly affected by the method chosen to compute composite variabilities (about –1.0 percent for his "composite" variability) USPS-T-15 Tables D-1 and D-2,

- only slightly affected by the choice of the minimum number of observations per facility for his screens (less than 1.0 percent) USPS-T-15 Table B-1,

- substantially affected, usually downward, when fit to an unscreened sample (-6.6 percent) USPS-T-15 Table A-1,

- mostly unaffected by the addition of time-indexed fixed effects to his equations and the deletion of his autocorrelation adjustment (changes in selected process variabilities range from –2.0 to 3.6 percent) Tr. 46E/22254 (Table 3), and

- very sensitive to the details of his treatment of site-specific fixed effects.

When the fixed effects are omitted (his "pooled" model) the changes in his variabilities range from –3.2 to 12.3 percent, and all but one is an increase. USPS-T-15, Appendix F. When his model is fit to a cross section without the fixed effects (his "between" model) six of his variabilities increase by more than 20 percent, three increase

by more than 15 percent and one decreases. USPS-T-15 Tables E-1 and E2. Similar changes result when the cross section is limited in duration (his "rate-cycle" model) USPS-T-15 Tables E-3 and E-4. The introduction of restrictions on the statistical properties of the fixed effects (the "random effects" model) increases most of the variability estimates but less severely than when the fixed effects are omitted altogether. USPS-T-15 Tables G-1and G-2.

The sensitivity of witness Bozzo's variabilities to the specification of site-specific fixed effects means that the Commission must be confident of the correctness of this aspect of his models in order to be able to rely on his estimates. Unfortunately, the fixed effects are all-purpose proxies for any kind of level differences in work hours, whatever the cause, that exist between processing plants over the sample period. It appears from his testimony that witness Bozzo has not attempted to analyze his estimates of the fixed effects to see if they are consistent with any of the hypotheses offered for their causes. For example, a comparison of the fixed effects across processes ought to show whether or not the fixed effects mostly represent plant-level or process-level differences. Without this kind of analysis, which is really no different than inspecting the other estimated coefficients for reasonable signs and magnitudes, it is impossible for the Commission to conclude that the fixed effects are correctly specified.

The econometric results reported by witnesses in this proceeding convey a mixed message with regard to the presence of an errors-in-variables bias in witness Bozzo's volume variabilities. Witness Bozzo ascribes pronounced increases (compared to witness Bradley) in the estimates of variabilities for manual parcels and manual priority mail to "the application of tighter sample selection rules," or, in other words, to measurement error in piece handlings. USPS-T-15 at 127.   This has also been noted by witness Smith (OCA-T-4 at 25) and witness Neels (UPS-T-1 at 28). However, a reduction in an errors-in-variables bias is not the only possible explanation for the increased variabilities of manual parcels and priority mail. Witness Bozzo points out that there are "a number of material differences in the two analyses" that could have produced this outcome. USPS-T-15 at 126-127. See also witness Smith OCA-T-4 at 20.

Within witness Bozzo's variability estimates there is a pronounced tendency for manual operations to have lower variabilities than automated and mechanized operations. This tendency was even more pronounced in witness Bradley's R97-1 estimates. USPS-T-15, Table 9, at 126. Piece handlings for manual operations are based upon weights and conversion factors while piece handlings for automated and mechanized operations are taken from more accurate machine counts. The pattern of lower manual variabilities is explainable by the presence of greater measurement error in the manual piece handlings, causing a greater errors-in-variables bias in the variabilities estimates for manual operations.

Lower variabilities for manual operations may have other implications that are difficult to accept. Witness Neels points out that at some level of piece handlings, manual operations must become less costly than automated and mechanized operations. Witness Neels has checked witness Bozzo's variabilities to see if, in fact, they imply that manual processing is less costly at any of the facilities in his sample. UPS-T-1 at 39-46. He finds that manual processing is never less costly than automated or mechanized processing for letters, but there are many plants where manual processing would be "more economical" for parcels and flats. If witness Bozzo's variabilities are correct, then it is not economical for the Postal Service to conduct automated or mechanized sorting of parcels and flats at its largest facilities.

In the course of his examination of the MODS data witness Neels concluded that the MODS piece handlings were commingled for Manual Parcels and SPBS. Tr. 27/57-58. Combining the two would eliminate any offsetting reporting errors. Then, the variabilities estimates from refitting witness Bozzo's equation with the aggregated data will show the effects of eliminating some of the measurement error in piece handlings. The result of witness Neels' refitting is a considerable increase in variability, as might be expected if the errors-in-variables bias is downward and large. Tr. 27/Table 8 at 60. When the experiment is repeated with Manual Flats and FSM the result is similar. However, the experiment produces the unexpected result that variability decreases when it is

conducted with Manual Letters, OCR, LSM and BCS. Consequently, witness Neels'
experiments provide evidence of errors-in-variables biases that is distinctly mixed.

Witness Neels testimony includes a set of "reverse" regressions of first handling
pieces (FHP) on total pieces handled or fed (TPH/F), possible deliveries, time dummies
and site-indexed fixed effects. UPS-T-1 at 33-36. Witness Bozzo has contributed a set
of "forward" regressions of TPH/F on FHP, possible deliveries, trend and fixed effects.
USPS-RT-6 at 10-22. Witness Neels' and witness Bozzo's equations are translogs and
involve somewhat different explanatory variables, so they are not transformable one into
the other. In addition only two of witness Neels' and witness Bozzo's "shapes-level"
regressions were fit to the same sample and are directly comparable. These equations,
for letters and flats, yield markedly different estimates of the elasticities of TPH/F with
respect to FHP. Witness Neels' "full" specification elasticities are 2.062 (0.061) for letters
and 1.318 (0.015) for flats (standard errors in parenthesis). Witness Bozzo's elasticities
for "all" observations are 0.950 (0.015) for letters and .811 (0.008) for flats. The
difference between these estimates can be explained by the presence of a great deal of
measurement error in the values for TPH/F and FHP. It is also likely that the
measurement errors for TPH/F and FHP are not independent. The rebuttal testimony of
USPS witness Greene suggests that the "reverse" and "forward" regressions both have
an errors-in-variables bias. USPS-RT-7 at 21-26. If the equations had been simple linear
transforms of each other and the errors were uncorrelated, the estimates from each
would have bounded an unbiased estimate of the elasticity. USPS-RT-7 at 33-36 and
Tr. 46E/22097 and 22098.

Witness Greene has pointed to witness Bozzo's high equation R-squares as an
indication that measurement errors in piece handlings are small enough to be neglected.
USPS-RT-7 at 24-25. The R-squares of witness Bozzo's "forward" regressions are
indeed quite high. USPS-RT-6 at 21-22. If measurement errors in TPH/F and FHP are
uncorrelated, then the high R-squares are indicative of reliability ratios for TPH/F that are
close to one. Unfortunately, the process that produces errors of measurement in piece
handlings is unknown and is likely to be producing correlated errors in TPH, TPF and

FHP. Witness Bozzo's forward regressions were also fit only to TPH/F and FHP aggregated for all letters and all flats. So the high R-squares may just be an indication that many of the errors in piece handlings at the lower activity levels take the form of offsetting errors in the MODS reports for substitute operations.

e. Applicability Issues

In our R97-1 Recommended Decision we listed a "chain" of untested assumptions that would have had to be accepted by the Commission in order to compute volume-variable costs using witness Bradley's variability estimates as proposed by Postal Service witnesses. PRC Op. R97-1 at 3055 and Appendix F at 17-22. These assumptions were:

1. Piece handlings are proportional to volumes.

2. The IOCS tallies reflect proportions by MODS processing activity.

3. Wage rates are not volume variable.

4. The number and size of processing facilities is not volume variable.

5. Mail processing activities are independent, i.e. non-joint in inputs and outputs.

6. Variabilities for labor can be applied to other cost pools.

7. Variabilities derived at the sample mean will remain valid for the base and test years.

The Service's calculation of volume-variable costs with witness Bozzo's variabilities invokes some, but not all, of these same assumptions. Some of these assumptions are implicit in the Postal Service's calculations of volume-variable costs and the Commission's calculations of attributable costs for cost pools other than mail processing labor.

Postal Service witnesses in this case have not attempted to use witness Bozzo's variabilities as proxy variabilities for other cost pools. USPS-T-15 at 133-136. In addition, witness Bozzo provides evidence that one of the assumptions is approximately true (postal wage rates are not volume variable), (USPS-T-15 at 27-28) and at 35-39, and that another is innocuous (elasticities derived from the sample mean differ little from

elasticities derived in other reasonable ways). USPS-T-15 at 29. The assumption that the IOCS tallies reflect proportions by MODS processing activity continues to be used because the IOCS tallies are virtually the only practical source for the distribution key shares that are needed for the Postal Service's and Commission's calculations. Witness Bozzo testifies that the distribution key method is "the only feasible method to compute volume-variable costs by subclass." USPS-T-15 at 29. *See also* USPS-RT-6 at 11-12. Mathematically, witness Bozzo's mail processing equations are not independent because of the presence in them of the manual ratio. PRC Op. R97-1, Appendix F at 39-41. However, witness Bozzo shows that the effects of this liberty with the mathematics are small and almost entirely offsetting. USPS-T-15 at 143-147.

UPS witness Neels has presented evidence in this case that casts serious doubt on the validity of the two remaining assumptions. The first of these assumptions is the assumption that piece handlings are proportional to volumes. This "proportionality" assumption is implicit in the Postal Service's method for combining witness Bozzo's volume variabilities with witness Degen's distribution key shares. The Postal Service's formula for calculating volume-variable mail processing costs is strictly valid only if a proportionate change in all mail volumes will produce an equal proportionate change in piece handlings. The second of the assumptions is that the number and size of mail processing facilities is fixed and not volume variable over the rate cycle. The Postal Service's calculations implicitly assume that changes in volume are distributed within a system of mail processing plants that is fixed in number, size and location at least over the term of the rate cycle. If the number, size and location of mail processing plants responds to volume changes then the system-level volume variabilities will be different from the process/plant-level variabilities estimated by witness Bozzo.

Witness Neels evidence of a violation of the proportionality assumption is a set of "reverse" regressions of first handling pieces (FHP) on total pieces handled or fed (TPH/F) along with possible deliveries, time-indexed, and site-indexed fixed effects. Tr. 27/30-38. Since FHP is a measure of volume at mail processing plants, witness Neels' reverse regressions lead to a calculation of the elasticity of piece handlings with

respect to volume. Most of these elasticities substantially exceed one, in violation of the proportionality assumption. Tr. 27/Table 6 at 36. Statistically, all but LSM and Manual Flats exhibit elasticities that are greater than one at very high levels of significance. However, this finding is not definitive. As noted above and by witness Bozzo, USPS-RT-6 at 13, witness Neels' result may also be explained as an errors-in-variables bias caused by a large amount of measurement error in TPH/F.

Witness Neels points out that neither witness Bradley in R97-1 nor witness Bozzo in his direct testimony, present empirical evidence of the validity of the proportionality assumption. UPS-T-1 at 31. USPS witness Degen's direct testimony is also mostly silent on the subject.

Witness Bozzo deals with the proportionality assumption primarily in his rebuttal testimony. USPS-RT-6 at 10-28. He begins by pointing out that his model does not treat piece handlings as proxies for volumes. Rather, he regards TPH/F as the true intermediate output of mail processing activities. But this just begs the issue. If piece handlings are not proportional to volume then witness Bozzo's variabilities cannot simply be used to multiply total mail processing labor cost to get the volume-variable component. A correction for the non-proportionality, such as the correction witness Neels applies to witness Bozzo's variabilities Tr. 27/60-63, must be made somewhere in the Postal Service's calculation of volume-variable mail processing costs by subclass. In his direct testimony witness Bozzo failed to see clearly the problem that non-proportionality creates for the Postal Service's method for calculating volume-variable cost. USPS-T-15 at 53-56. He states "There is no inherent bias in the proportionality assumption. To the extent the assumption does not hold, all that arises is an approximation error from using a linear function relating volumes and cost drivers to stand in for the true non-linear relationship." Witness Neels' formula [UPS-T-1 at 60, line 11] shows how the Postal Service's distribution key method must be corrected (assuming that FHP is volume). This does not seem to be a correction for an "approximation error".

Next, witness Bozzo extensively criticizes witness Neels' reverse regressions as being too flawed to yield any useful information regarding the proportionality assumption. He asserts that RPW volumes rather than FHP are the appropriate volume measures for a test of the proportionality assumption USPS-RT-6 at 14; he criticizes witness Neel's specification of his "reverse" regression equation without a corresponding "forward" equation as being improper econometric practice USPS-RT-6 at 15-16; and he rejects the argument made by witness Neels that the "reverse" regression avoids an error-in-variables bias created by measurement error in FHP USPS-RT-6 at 14. None of these arguments seem to the Commission to be sufficient reasons to ignore witness Neels' reverse regressions.

Witness Bozzo enlarges on his critique by specifying and fitting shape-level "forward" regressions of TPH/F on FHP (and other regressors) for letters and flats. Witness Bozzo's econometric results also disprove the proportionality assumption but in a manner that is precisely the reverse of witness Neels' results. All his fits leave elasticities that are less than one and statistically significant. USPS-RT-6 Table 2 at 22.

The differences between witness Neels' and witness Bozzo's results are due to the different assumptions made about measurement error in their "reverse" and "forward" regressions. Witness Bozzo's' "forward" regressions assign all of the measurement error to TPH/F and none to FHP while witness Neels' "reverse" regression assigns all of the error to FHP and none to TPH/F. According to witness Neels, FHP is a "noisy" measure of volume. His assignment of error to FHP corresponds to the assumption made about errors in TPH/F by witness Bozzo when he fits his derived demand equations. In the Commission's view both FHP and TPH/F are likely to contain many large errors of measurement even after witness Bozzo's screens. Until the Postal Service can provide a cleaner data set the validity of the proportionality assumption cannot be confirmed.

On behalf of the Periodicals mailers, witness Stralberg argues that witness Neel's challenge to the proportionality assumption is not credible because there are no operational reasons for expecting that the number of piece handlings (TPH) would rise faster than mail volume. Although he concedes that the proportion of re-handlings

increases in larger plants, he asserts that this reflects "network effects" rather than the effects of volume. Tr. 38/10-11]. There are, however, obvious operational reasons for expecting that increased volume is accompanied by increases in the proportion of total handlings to first handlings (the proportion of TPH to FHP).

The depth of sort that is attempted in machine-based operations, and therefore the number of re-handlings performed in those operations, is determined, in part, by the volume of mail that is available to be sorted to a given area. For example, over the period of time covered by witness Bozzo's data, the Postal Service has shifted the sorting of letters to Delivery Point Sequence (DPS) from a manual operation performed at delivery units to an automated operation performed on Barcode Sorters in processing plants. In Barcode Sorting (BCS) operations, a letter receiving an incoming primary sort will be sorted at least once to separate it to a 5-digit zone. This would generate one FHP and one TPH. Since DPS became the BCS operation's primary task, the large majority of letters that first receive an incoming primary sort in the BCS operation subsequently receive a sort to Delivery Point Sequence in that operation. USPS-T-10 at 8-9. Sorting to Delivery Point Sequence increases the number of TPH generated by each such letter by two [*Id. at* 5], but FHP does not change. The extent of Delivery Point Sequencing attempted at processing facilities is volume determined, since it is attempted only for mail destined to delivery units that have 10 or more carrier routes. Under Postal Service guidelines, only those delivery units have enough volume to make automated Delivery Point Sequencing cost effective. *Id. at* 8.

Similarly, since the mid-1990s, the Postal Service has been moving the sorting of flats to carrier route from a manual operation performed at delivery units to a Flat Sorting Machine (FSM) operation performed in processing plants. USPS-ST-42 at 15. Before the transition, a flat receiving an incoming primary sort to a 5-digit zone would generate both an FHP and a TPH. After the transition, a portion of flats receiving an incoming primary sort in the FSM operation would subsequently be sorted to carrier route in that operation. This would generate an additional TPH, but FHP would not change. The carrier route sort attempted at processing facilities is volume determined, since it is

attempted only for mail destined to delivery units that have ten or more carrier routes. Under Postal Service guidelines, only those delivery units have enough volume to make mechanized sorting to carrier route cost effective. Tr. 5/1977.

Another reason that total handlings should be expected to increase faster than initial handlings is that flats must be separated in a triage operation before FSM processing can take place. Flats must be segregated into those that are machinable on an FSM 881, those that are machinable only on an FSM 1000, and those are not machinable. Those that are machinable on an FSM 881 must be separated between those that are barcoded and those that are not, and those that are OCR readable and those that are not. USPS-ST-43 at 14. When flat processing shifts from a manual operation to the FSM operation, it results in additional triage activity. Adding the triage operation adds to total handlings but does not change initial handlings. While the Postal Service's data systems may not record triage activity as handlings, its effect on workhours will distort the measured relationship between handlings and work hours if triage handlings are not taken into account. Triage activity is volume determined, for the same reason that the degree of flat sorting that is mechanized is volume determined.

An additional reason for expecting that total handlings rise faster than initial handlings is that as processing plants increase in size, non-distribution or "allied" handlings increase as a proportion of total in handlings at the plant. Tr. 21/8268. *See also* Docket No. R97-1, USPS-T-4 at 21-22. The majority of allied handlings are considered support, or overhead, activities for sorting operations. Because overhead handlings become a larger proportion of total handlings as processing plants grow, total handlings are likely to rise faster than initial handlings.

The four operational phenomena described above are likely to cause total piece handlings to rise faster than volume. They cast doubt on witness Bozzo's assumption that TPH is proportional to volume. As long as the proportionality of piece handlings to volume is in doubt, witness Bozzo's variabilities cannot be regarded as reliable.

Witness Neels' testimony cites evidence that the number and size of the Postal Service's mail processing plants has changed over the period of time encompassed by

witness Bozzo's MODS data. Witness Neels has compiled a table from USPS-LR-I-244 showing the average number of machines per site at processing plants for the years 1993 through 1998. Tr. 27/12780 (Table 1). These statistics show that the average number of machines of most types has changed considerably over the time period spanned by the MODS data. This picture of change is confirmed by an analysis of sites reporting various combinations of processing equipment in the fourth quarter of each year. Tr. 27/12782 (Table 2). Fitted logits (functions whose dependent variable assumes a value of zero or one in the sample) for facilities with FSM and SPBS technology show that the presence of these technologies at a processing plant is related to volume. *Id.* at 12787-88 (Table 3). Witness Neels points to testimony by witnesses Bozzo and Degen to show that the number of processing plants has grown since 1992. Five new plants were built, twenty were replaced, and three were expanded or rehabilitated. USPS-T-16 at pp.14-15. Witness Neels interprets these changes as responses to changes in mail volume.

The Postal Service's interpretation of the evidence is found in the testimony of witness Degen. This interpretation is to affirm the importance of all other causes and to deny that the observable changes in the number and size of the plants are responses to changes in system-wide volumes. "The nature and extent of the mail processing and distribution network, in particular the size and location of network nodes (plants), is driven substantially by non-volume considerations." USPS-T-16 at 14. "The decentralized, networked nature of the Postal Service's mail processing function, which is dictated by the population distribution, rules out plant replication as an option for handling the additional workload due to volume growth." USPS-T-16 at 17. This was also witness Degen's position when the issue was raised late in the course of hearings in R97-1. According to witness Degen new mail processing facilities and major renovations and expansions of existing ones take from 7 to 9 years to plan and to carry out. Consequently, the number and size of the Service's processing plants is effectively fixed for the rate cycle.

In the long run witness Neels must be right. Mail processing plants exist to process mail. Their number, size and location is the result of decisions by management about how and where to do the processing so that given volumes of mail can be moved over the Postal Service's network. However, in the short run of a postal rate cycle, witness Degen's testimony may also be correct. If all changes in number and size take seven to nine years to make, then the corresponding elements of postal capital are among the factors that are properly regarded as fixed for cost functions defined over the run of the rate cycle.

A major difficulty we find with witness Degen's testimony is that there are ways for postal management to alter the number and size of processing plants in far less time than 7 to 9 years. Processing plants can be shut down more quickly than they can be planned and built. They may also be expanded and rehabilitated in less time than it takes to build from scratch. USPS witness Kingsley's testimony USPS-T-10 describes a system of mail processing plants that are being continuously modified to accommodate changing conditions, including long term changes in the volumes of mail that they process. Many of the changes in organization and equipment that witness Kingsley describes clearly took place in less time than a postal rate cycle of 3 to 4 years. Witness Kingsley's description of the space planning process shows that the Service generally tries to respond to volume increases by expanding activities at existing plants. According to witness Kingsley "many of our plants, especially the newer ones, were sited and designed to be expanded through one wall of the plant." USPS-T-10 at 34. All of this shows that the space used to process mail is not a static input over the period covered by a typical rate cycle.

    f.   Variability Calculation Issues

In R97-1 Witness Bradley calculated volume variabilities from his fitted trans-log equations under the assumption that all of his controls (the explanatory variables other than piece handlings) were non-volume variable. PRC Op. R97-1, Appendix F at 35-38. In its R97-1 Recommended Decision, the Commission pointed out that this assumption

was incorrect with respect to two of the controls, the manual ratio and the fixed effects. PRC Op. R97-1 at 3007, Appendix F at 39-45. Like witness Bradley, witness Bozzo treats all of the controls in his equations as non-volume variable. "The variabilities, in both my study and Dr. Bradley's, are appropriately computed as the partial derivative of the labor demand function with respect to TPH." USPS-RT-6 at 45. Witness Bozzo's equations also include the manual ratio and fixed effects as controls so his variabilities have the same fatal defect in this respect as witness Bradley's. Virtually all of the Commission's lengthy discussion of the defects in witness Bradley's variability calculations apply without modification to witness Bozzo's calculations. Witness Bozzo has added a third control that is also volume-variable, the index of capital.

A mail processing volume variability can be viewed as composed of two kinds of effects. These are a direct effect and indirect effects. The direct effect is the effect on labor hours transmitted directly from volumes to labor hours through the piece handlings driver in witness Bozzo's derived demand functions. The indirect effects differ from the direct effect because they are transmitted through the controls. For instance, when a change in volume alters the manual ratio for an activity, the effect is transmitted to work hours, not through the coefficient for piece handlings, but through the coefficient for the manual ratio. An indirect effect is present wherever a control is itself volume-variable. Both witnesses Bradley and Bozzo include only direct effects in their calculation of variabilities for mail processing in the belief that their controls are all non-volume-variable.

Since the manual ratio is a ratio of piece handlings, it is volume-variable by virtue of its definition. Witness Bozzo has shown that the resulting indirect effects on man-hours are small and mostly offsetting among the affected activities. USPS-T-15 at 25. His view is that the manual ratio is a measure of the level of automation and mechanization at a plant that is independent of sustained changes in volume. This is essentially the same argument made by witness Bradley in R97-1 and rejected by the Commission. Witness Neels regards the manual ratio as endogenous, that is, it is a variable that is set by the Postal Service. The manual ratio describes how the Postal Service has chosen to

combine manual and automated or mechanized processes to process the mail at individual plants. If the chosen mix changes from plant to plant as a function of volume then the manual ratio must be volume-variable. Witness Kingsley has described in some detail how the Service has gone about deploying increasingly powerful automated equipment during the 1990s USPS-T-10. It is perfectly obvious from her testimony that these deployments are partly volume-driven and have the general purpose of reducing the amount of mail that is processed manually. To a large extent the Service's equipment deployments are specifically designed to operate on the manual ratio that witness Bozzo regards as exogenous. The intent of the deployments is to increase the amount of mail processed in automated operations and decrease the fraction that is left to be processed in backup manual operations.

The fixed effects that both witnesses Bradley and Bozzo include in their estimated equations capture the effects of any level differences between man-hours at processing plants during the sample period. In the case of witness Bradley's equations, these level differences will include differences due to the additional controls in witness Bozzo's better-specified equations. Witness Bozzo's fixed effects differ from witness Bradley's because they do not include level differences due to the additional controls. These additional controls are possible deliveries, the wage rate and the capital index. Witness Bozzo recognizes the difference with respect to possible deliveries when he asserts that witness Bradley's fixed effects are partly network effects. USPS-T-15 at 26. By the same logic witness Bradley's fixed effects must also have been partly wage rate effects and capital effects. Since capital is volume-variable, witness Bradley's fixed effects were partly volume-variable as the Commission suspected in R97-1.

Witness Bozzo's fixed effects may also contain an undisclosed relationship to volume. The fixed effects in these models are exactly equivalent to the coefficients of dummy variables, one for each processing plant. They statistically represent level differences between the plants without associating specific causes. Among other causes, witness Bozzo points out that they will capture "systematic" measurement errors in piece handlings and work hours. USPS-T-15 at 83-85. The fixed effects and volume

may also be jointly caused by exogenous factors such as urban location and population growth. USPS-T-15 at 35. However, there is no way to tell if these hypotheses are sufficient to explain everything that is captured by the estimates. Witness Bradley's fixed effects were correlated with volumes at the plants; most likely, witness Bozzo's fixed effects are similarly correlated.

If the fixed effects happen to capture a volume variable effect, as witness Bradley's did, then witness Bozzo's variabilities will fail to reflect it. Witness Bozzo asserts that the Commission's logic in R97-1 is flawed because the fixed effects by construction are fixed over the sample period, USPS-T-15 at 34-35, so the fixed effects cannot be a channel for omitted volume variable effects over time. This would be true if the Postal Service's mail processing system was completely static. If the Service's plants do not change in number, size and configuration, then the fixed effects, as they are estimated by witness Bozzo, would remain unchanged over time even as volumes change. But the system is not static as claimed by witnesses Bozzo and Degen. When a plant is enlarged, rebuilt or expanded as described by witness Kingsley, or even on the fairly frequent occasions when the equipment is changed at these plants, the fixed effects will change, the fact that they have been estimated as averages over the sample period not withstanding. To some extent the Postal Service actually chooses the fixed effects for its system of mail processing plants when it decides where to locate them, what local areas they are to serve, how large to make them, what processing equipment to install in them and how to organize their operations. This makes the fixed effects an omitted source of volume variability at the system level.

Of the three controls that have been added by witness Bozzo, one seems certain to be volume variable. This is the index of capital. Both UPS witness Neels and OCA witness Smith have pointed this out in testimony. According to witness Neels, witness Bozzo's "variability estimates are thus calculated holding capital investment constant, whereas, the amount of capital investment in a particular plant is influenced by the volume of mail handled by that plant." Tr. 27/23. Witness Smith's list of flaws includes "variables assumed non-volume variable that are actually volume variable: the manual

ratio is still present, and capital is treated as exogenous when it may in fact be endogenous." Tr. 27/19.

The Commission concludes that witness Bozzo's mail processing variabilities do not account for all sources of volume variable effects on mail processing labor costs.

3. Analysis of the Variability of Specific Operations

a. Manual Sorting Operations.

The volume variabilities that witness Bozzo estimates for the Manual Letter Sorting and Manual Flat Sorting operations are 73.5 percent and 77.2 percent, respectively. Because these operations require each piece to be individually read and sorted, the intuitive expectation has long been that the labor required would increase in proportion to the pieces sorted. Witness Degen seeks to explain why these variabilities should be so much lower than that expectation.

Witness Degen argues that manual processing operations are staffed so that the intensity of effort can rise or fall to in response to the pressure of random volume fluctuations. He argues not only that day-to-day spikes in volume can be absorbed in this manner, but that sustained increases in average daily volume can also be absorbed by more intense work effort. He argues that the Postal Service can "capture this discretionary effort" by holding staff levels unchanged in the face of sustained increases in average volume. USPS-T-16 at 41; USPS-RT-5 at 15. UPS witness Neels agrees that because mail volume varies randomly, and staffing levels are set to handle expected workload, productivity might vary in response to changes in workload. But, he argues, absorbing volume peaks with more intense work effort is a short-run phenomenon. He argues that it is unlikely that supervisors could demand ever increasing intensity of work effort to absorb sustained increases in workload. Tr. 27/ 12827.

The Commission agrees that it is unrealistic to expect that rising volumes can be absorbed indefinitely by ever increasing intensity of work effort. At some point over a three-to-four-year rate cycle, burn out can be expected to set in. It might be realistic to

sustain intensity effects over several years time if the operation were substantially overstaffed to begin with. But if raising the ratio of workload to worker is all that is needed to make staff work more intensely, it is hard to explain why management would not have realized this long ago, and followed a strategy that would have produced the optimum workload-to-worker ratio in the base period.

Witness Degen offers another reason for concluding that there is excess labor capacity in the manual letter and flat sorting operations. He characterizes manual letter sorting operations as "backstop operations in which automation rejects must be sorted in a timely manner to meet service commitments."   USPS-T-16 at 41-42. He says that manual flat sorting functions "partially as a backstop operation because rejects require timely processing." *Id. at* 43. He implies that both of these operations are staffed with a cushion of extra workers to quickly process late arriving letters and flats.

Witness Neels doesn't dispute that these manual sorting operations can function as backstops for their automated counterparts, but he argues out that this is only one of many reasons that pieces are sorted manually. He points out that mail is often sorted manually for reasons that have nothing to do with backstop functions. He notes that in many smaller plants, mail is sorted manually because there is no alternative. He also notes that non-machinable pieces are sorted manually because of their physical characteristics require it. He points out that in flat processing, where there is a chronic shortage of mechanized and automated equipment, plants routinely process the residual workload manually. Tr. 27/12826.

Witness Neels aptly observes that the backstop role is only one of many reasons that mail is sorted in manual operations, which should limit its influence on the overall variability of those operations. That the backstop role is a relatively minor one for manual flat sorting is indicated by the fact that on average, 40 percent of flats in processing plants are sorted manually, which is too high a percentage to consist mostly of machine rejects. For that reason, the backstop phenomenon is unlikely to explain the low variability that witness Bozzo estimates for manual flat sorting. The same appears to be true for letter processing. According to witness Kingsley, what little volume remains in

manual letter sorting operations is "primarily composed of pieces that are, for various reasons, deemed to be non-machinable on automation at the outset, rather than those rejected from automated operations because poor barcode quality. USPS-T-10 at 7.

More importantly, it is not logical that backstop functions should be significantly affect the variability of manual sorting operations in the long-run, that is, over an entire rate cycle. As noted above, there is no reason that a rational supervisor would not have optimized the ratio of sustained workload to worker in the base period. The optimum ratio may include a staffing cushion that is sufficient to handle random peaks of late-arriving automation rejects, as witness Degen describes. But if such a cushion were needed to clear random peaks in time to meet dispatch schedules, increases in the *sustained* level of workload should cause proportionate increases in the size of the random peaks that need to be rapidly cleared. Logically, this would require proportionate increases in the staffing cushion needed to clear those higher random peaks. For this reason, the backstop role that witness Degen describes for manual sorting operations does not provide a credible explanation for why those operations should exhibit substantial long-run economies of scale.

The intensity effect and the backstop role are the two arguments on which witness Degen relies to explain witness Bozzo's discovery of substantial economies of scale in manual sorting operations. To the extent they exist, they would only help account for reduced variabilities in the short-run. They do not offer credible explanations for why manual sorting operations should exhibit substantial economies of scale over a typical rate cycle.

Variability theories that rely on assertions of chronic excess labor capacity in mail processing operations are substantially undermined by the Postal Service itself. The Postal Service has long maintained that chronic excess staffing of mail processing operations does not exist. As far back as Docket No. R84-1, Postal Service witnesses have consistently asserted that the problems caused by uneven mail arrival profiles, varying processing windows and dispatch schedules are successfully accommodated by the Postal Service's ability to continually and meticulously adapt staff to workload

through the use of staggered shifts, part time, temporary, and "casual" staff, juggling of leave, and scheduling of overtime.

In opposition to theories that certain subclasses of mail are processed during slack time, the Postal Service's witnesses testified that there is no slack time. *See* Docket No. R84-1, Tr. 40/20,819-35 (rebuttal testimony of Postal Service witness O'Brien). Postal Service witness Steele recently testified that surplus labor could not be harbored in any mail processing operations, including "allied" operations, because of the intense pressure that managers are under to minimize staff and labor costs. *See* Docket No. R97-1, USPS-RT-8. Also in that docket, Postal Service witness Moden testified that excess capacity is not built into manual sorting operations in order to perform their backstop functions for automated sorting operations. He asserted that management has the ability to match staff to workload by using overtime and part time labor. *See* Docket No. R97-1, Response of Postal Service witness Moden to TW/USPS-T4-7(c).

In this docket, Postal Service witness O'Tormey, currently a manager of mail processing operations, testified that supervisors do not cope with unexpected surges in volume by building excess staff into an operation. Tr. 21/ 8394. He testified that standard practice is to absorb *expected* surges in volume by increasing the number of casual employees, and to cope with *unexpected* surges in volume through the use of overtime. Tr. 21/8385.

The remaining argument that witness Degen offers to explain why there should be substantial non-variable components in the labor costs of manual sorting operations is that the time spent sweeping manual cases at the end of each sort scheme is independent of the volume sorted in that scheme. USPS-T-16 at 41. He explains that most letter cases have open backs that allow the case to be swept while mail is being cased. *Id.* Simultaneous sorting and sweeping is apparently not done with respect to the casing of flats. *Id. at* 43.

Witness Degen does not argue that there is any significant fixed time associated with setting up a manual sort scheme for letters or flats. He does not indicate what proportion of total time in either manual letter or manual flat operations is spent sweeping cases.

He is careful to confine his argument that sweeping letter cases is independent of volume to the final sweep associated with a scheme. Simultaneous casing and sweeping of letter mail implies that sweeping is proportional to the volume cased, except for the final sweep associated with a scheme. However, even the labor associated with final sweeps of schemes should be volume variable to an extent. The record indicates that manual flat sorting operations typically take the overflow from parallel mechanized and automated sorting operations. USPS-T-13-14. It is logical to conclude that as overflow volume rises, additional cases would be set up to sort a given scheme.

The most direct indication on the record of the relative importance of tear down time in manual sorting operations came from Postal Service witness Unger. Testifying as an active manager of mail processing operations, he concluded that manual flat sorting does not involve set-up or shut-down time of any consequence. Tr. 21/8256, 8264. Accordingly, set up and shut down time do not provide a credible explanation for the high degree of fixity of manual sorting operations that witness Bozzo's models estimate.

Neither the intensity effect, the backstop role, nor set-up and shut-down time described by witness Degen offer credible reasons for concluding that there is substantial long run fixity, and therefore long run scale economies, in manual sorting operations. These conclusions run counter to the basic operational finding, to which the Postal Service has long subscribed, that the need for mail processing labor generally will rise in proportion to the volume of mail sorted to its destination, except where a source of significant fixed cost can be demonstrated to be associated with a specific operation. The Postal Service has not identified any significant fixed cost that can reasonably be associated with manual sorting operations. It relies principally on theory that substantial excess labor capacity is built into these operations, either by default or design. These theories run counter to the long-standing operational views of the Postal Service, as expressed most recently in USPS-LR-H-1 in the previous docket. They also run counter to the views of its operational witnesses in past and current rate proceedings. What limited credibility these theories of excess labor capacity have is confined to explanations of short-run effects on labor costs. Accordingly, the Postal Service has not carried its

burden of reconciling its statistical results for manual sorting operations with the operational evidence in this and prior dockets.

  b. Gateway Operations.

The volume variability that witness Bozzo estimates for the Cancellation and Mail Prep activity is approximately 55 percent. To explain how such a large amount of the demand for labor in this operation might be fixed, witness Degen again offers an excess labor capacity theory.

  As Postal Service witnesses describe it, the culling activity requires unloading of hampers of collection mail from arriving trucks. Hampers are dumped onto a culling belt, where clerks pull out bundles of metered mail, tray it, and send it directly to the OCRs. They also pull out parcel shaped mail and flats and cancel them by hand. USPS-T-16 (Degen) at 26-27. Stamped mail is sent on to an Advanced Facer Canceler Machine (AFCM) where mail is automatically separated into barcoded mail, OCR readable mail, and hand-addressed mail for appropriate processing. USPS-T-10 (Kingsley) at 2-3. Both witnesses emphasize that the arrival profile of the mail may vary by day, week, or month, and that mail must be quickly forwarded to downstream operations if machines are to be operated at full capacity, and service commitments are to be met. *Id.*

Witness Degen argues that some of this activity involves idle time:

> The culling operation is a "gateway" operation that must process collection mail quickly so that it can flow to the outgoing sortation operations. As collection volumes arrive at the plant, the cancellation operation determines the sortation window. Early in the operation, as collection mail arrives, inventories of mail must accumulate quickly at downstream operations, to ensure no interruption due to inadequate mail supply. Late in the operation, cancellation must be staffed to quickly clear any late arriving volumes. Increases in total collection volume that exhibit the current time distribution will not increase cancellation hours proportionately because the full staffing early and late in the operation will not need to change—some of the waiting time will simply be converted to processing time.

* * * * *

> The dock/dumping function is staffed as a gateway within the cancellation operation and can absorb additional volumes without a proportional increase in hours. The culling belt can be staffed to match expected mail volumes, but it will generally be staffed more heavily early in the window to quickly feed mail to the OCRs. Once sufficient volumes have been cancelled to create backlogs for the OCRs, the staffing can be adjusted to actual volume. At startup and wind down there will be some capacity to absorb additional volumes. The overall volume-variability of the cancellation operation will tend to be less than 100 percent because of its role as a gateway with varying vehicle arrival times and volumes of collection mail that cannot be forecast with certainty.

USPS-T-16 at 37-38.

It is too conclusory to be entirely clear, but witness Degen's initial theory appears to have that been the Postal Service builds in excess labor capacity at the beginning and the end of all of the gateway operations--dock/dumping, culling, and canceling---in order to rush the mail to downstream sorting operations and allow them to start their operations at full capacity. From this premise, he inferred that the periods of peak staffing at the beginning and the end of these operations were absorbing additional volume without increasing staff levels.

The flaw in this theory is apparent. The premise is that lumps of mail arrive at unpredictable intervals during the peak periods. Excess staffing during the peaks provides the extra resources needed to process these lumps immediately and send them downstream. But if new, higher volumes of mail arrive at unpredictable intervals during the peaks, it simply means that the lumps of mail that require peak processing will now be larger, and the extra staffing needed to process them immediately and send them downstream will have to be proportionately larger. New, higher volume arriving during the shoulder period would have the same effect under the Degen scenario, because the shoulder period is already staffed to match expected volumes. USPS-T-16 at 38.[5]

Once witness Degen introduced the issue of the volume variability of gateway operations, the record quickly became muddled. Witness Neels asserted that the Degen

analysis ignores the possibility that growth in volume could occur in the peak periods that govern staffing levels in these operations, in addition to the shoulders of the peak when extra capacity is available. If all volumes grow proportionately, he argues, one would expect staff levels to grow proportionately in response. UPS-T-1 at 53. This appears to have misread witness Degen's testimony. As noted, witness Degen assumed that some additional mail would arrive during the peak. He drew the inference that it could be absorbed by the excess staff that is kept on duty during the peak.

In response to witness Neel's criticism, witness Degen took a new tack. He said that what witness Neels didn't understand in that staff can be added to the peak period without adding it to the shoulder period. He asserted that if additional mail volume (presumably with the same arrival pattern as before) were to somehow increase staffing during the peak without increasing staffing during the shoulder period, volume variability would be less than 100 percent. USPS-RT-5 at 13-14. This is a truism. It is not, however, consistent with witness Degen's theory of gateway staffing, which assumes that the shoulder period in gateway operations is already staffed to meet expected workload. It would therefore have to expand in proportion to additional volume arriving in the same sporadic pattern. USPS-T-16 at 38.

On rebuttal, MPA witness Stralberg agreed with Dr. Neels that peak loads do not imply that volume variability in these gateway operations is low. He commented that if mail volume were to double, with mail arriving in the same peak patterns as before, peak load conditions would not change. He added that "[f]acilities will have to staff for peak demand, thereby incurring the same proportion of employee idle time in between peaks." TW-RT-1 at 14.

Witness Stralberg goes on to observe that if the Postal Service were to arrange for additional volumes of mail to arrive in the intervals between the peaks, that workload would be smoothed, and the variability of costs would be reduced. *Id.* This a truism, but

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[5]   Witness Degen, in discussing platform operations, agrees that if mail has been arriving in trucks at unpredictable intervals in the base period, and then higher volumes arrive at the same unpredictable intervals, the Postal Service is likely to increase the size of the trucks that arrive, rather than their number or frequency. USPS-T-16 at 50.

not a particularly relevant one. Since it would be advantageous for the Postal Service to smooth the arrival times of existing volumes and it has not done so, there is no evidence to suggest that the Postal Service could smooth the arrival times of additional volume.

Witness Degen's theory that excess labor capacity is built into the peak periods at the beginning and end of the various gateway activities does not provide a credible explanation for the surprisingly low variability (55 percent) that witness Bozzo estimates for Cancellation and Mail Preparation operations. As both witness Neels and Stralberg point out, the existence of such peaks does not imply less than proportional variability if additional volumes have the same peaking pattern, for the reasons discussed above.

Even if he had properly interpreted the likely effect of peak loads on variability, his gateway theory has other shortcomings. His premise that there is excess labor capacity built into the workload peaks is in conflict with the past and present views of most Postal Service operational witnesses. Their consistent view is that managers deal with unpredictable variations in volume by juggling leave and overtime, because there are powerful disincentives against building a margin of error into staffing plans.

Finally, witness Degen's gateway arguments do not pass the test of common sense. If, as witness Degen says, the time outside the peak is staffed to match expected workload, it is reasonable to assume that labor costs outside the peak vary in proportional to volume. The only reason offered by witness Degen that the Cancellation operations should deviate from proportionality is his assertion that a margin of error for peak periods is built into the Postal Service's staffing plans. This would imply a planned margin of error of 45 percent if the peak were defined as the entire window. If only half of the processing window were on peak, the portion of peak staff that is considered surplus would have to double to 90 percent if the staffing surplus is to average 45 percent for the entire processing window. Witness Degen describes the peak period as the "start up and wind down" of the operation [USPS-T-16 at 38], implying that a minority of the processing window is on peak. If less than half of the processing window is on peak, it would imply that managers build in a margin of error of more than 90 percent during the peak periods

to cope with the unpredictable portion of the workload arriving on peak. This strains credibility.

  c. Mechanized and Automated Sorting Operations.

All participants, including the Postal Service, share the general expectation that once a mechanized or automated sorting operation is up and running, it runs at full capacity, following standard, systemwide procedures. Accordingly, labor costs associated with runtime should vary essentially in proportion to workload.[6] The variabilities estimated by witness Bozzo are substantially less than proportional (USPS-T-15 at 126):

Barcode Sorter (BSC)	89.5 percent
Optical Character Reader (OCR)	75.1 percent
Flat Sorting Machine (FSM)	81.7 percent
Small Parcel Bundle Sorter (SPBS)	64.1 percent

Witness Degen attempts to explain why.

As with manual sorting operations, witness Degen's approach is to identify specific sources of fixity that might make the variabilities of labor costs in these operations less than proportional. As with manual sorting operations, he argues that variabilities of mechanized sorting operations that involve manual keying should be expected to be less than proportional because the intensity of work effort varies with volume. USPS-T-16 at 42. Such variations are plausible. As with manual sorting operations, however, they should be viewed as short-run effects, not effects that can be sustained over a rate cycle.

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  [6] For example, regarding barcode sorters, witness Degen comments "[t]he machines runtime should vary closely with the pieces fed." Regarding the OCR operations, he notes "[t]he machine sets the pace, and only infrequent jams and equipment breakdowns interrupt a run." Regarding small parcel/bundle sorters, he observes "[o]nce the SPBS is in operation, workhours should vary closely with the number of bundles sorted." USPS-T-16 at 38, 39, 46. Witness Degen applies the same reasoning to some non-mechanized operations. With regard to Pouching (manual bundle sorting), he says "[t]he time spent actually sorting the bundles can be expected to be proportional to the number of bundles." USPS-T-16 at 49.

Set-up and tear-down time in FSM and SPBS operations. The primary additional source of fixity that witness Degen associates with mechanized and automated sorting operations is set-up and tear-down time. Sort "plans" or "schemes" take mail destined within a service area (defined by region, processing facility, delivery unit, carrier route, etc.) and distribute it among smaller service areas or units. Generally, the finer the level of sort, the more separate schemes that will be run to achieve it.

Generally, each scheme that is run must be set up and then torn down. Set-up time involves arranging and labeling receptacles to receive the sorted mail. Tear-down time involves sweeping the mail from these receptacles, or removing the receptacles from the machine, and sending it to a downstream operation. For some machines, the loading and sweeping functions are automated. USPS-T-16 at 39, 42. For some machines, set-up and tear-down activities can be done concurrently with sorting activities, and can be partly volume variable. For example, some machines fill bins or trays that must be removed and replaced during the run, as well as at the end of the run.   *Id. at* 38, 41-42.

Witness Degen argues that set-up time, and the time it takes to make the final sweep of each scheme, are fixed costs that will not vary with volume, but with the number of schemes run. He asserts that the degree to which set-up and tear-down time will reduce the variability of the operation will depend on the length of the run relative to the length of the set-up and tear-down time. Higher volume, he argues, will lengthen the run without lengthening the fixed set-up and tear-down time. *Id. at* 39, 43, 46. Witness Degen provides no estimates of the proportion of set-up and tear-down time to runtime for any of the operations whose variabilities he attempts to explain. He does characterize set-up and tear-down time for the BCS and OCR operations as "small." For the FSM operation he characterizes them as "higher" than for BCS. *Id. at* 43. For the Small Parcel and Bundle Sorter (SPBS) operation he characterizes these costs as "substantial." *Id. at* 46.[7]

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[7]   Witness Degen also relies on set-up and tear-down time to explain the low variabilities that witness Bozzo estimates for such non-mechanized operations as the manual parcel and Priority Mail sorting, pouching, and opening unit operations. *Id. at* 44, 47, and 49.

Witness Neels concedes that set-up and tear-down time might be fixed over a narrow range of volumes, and could be amortized as added volume allows longer runs. What witness Degen does not recognize, according to witness Neels, is that the end of this range, when higher volume requires adding a machine, there will be diseconomies of scale until that machine is used to capacity. The cycles of economies of scale and diseconomies of scale as machines are added and scaled up to capacity net out to constant returns to scale (proportionality), according to witness Neels. He adds that over a wider range of volume, set-up and tear-down time rises in proportion to volume as well, since it is replicated with each machine added. Witness Neels asserts that the range of changes in volume and machine installations revealed in witness Bozzo's data is sufficient to produce these effects. For example, he calculates that the average number of Flat Sorting Machines per facility rose from 5.6 in 1993 to 11.3 in 1998. Tr. 21/12820-22.

Witness Degen counters witness Neels' argument with a number of arguments, some of them partly valid. He argues that machines are sometimes added to trade up to new technology rather than to process new volume. He also argues that every facility would have to add machines at the same rate as volume is added to yield a proportional systemwide increase in cost. USPS-RT-5 at 12. As noted in Part 1, the only specific example offered by witness Degen of new machines that might be replacing obsolete machines was the OCR. Witness Neels' table of installations shows that there were many more OCRs added than LSMs discarded. Witness Neels does not assert how prevalent the Degen scenario is (added volume spreading the cost of a set-ups and tear-downs on a given machine) or his own scenario is (added volume requiring added machines). He simply asserts that when added volume in an operation requires adding a machine, it can be assumed to replicate the workload and hours associated with each existing machine, and therefore to have caused a proportional increase in labor costs.

A more relevant argument that witness Degen offers is that "scheme changes, not volumes, drive the number of setups and takedowns, particularly in secondary operations." He argues that the number of schemes is driven by the number of delivery

units and delivery points. *Id. at* 12-13. Witness Stralberg concurs. He asserts that in the incoming secondary flat sorting operation, the number of schemes run in an SCF facility is determined by the number 5-digit zones it serves. He asserts that each FSM can sort one, or at most two 5-digit zones at a time, and that each facility has far more zones to sort than it has FSMs to sort them. He speculates that if volume were to double, causing FSMs to double, that the length of runs could double. This, he argues, would cut set-up costs in half, and expand the number of zones that can be sorted on the machines. Tr. 38/17281-82.

The record is not developed well enough to support definitive findings on what the ratio of fixed set-up and tear-down time to runtime is in any of the operations modeled by witness Bozzo. In conclusory fashion, witness Degen characterizes set-up and tear-down time as "small" for some operations and "substantial" for others. He does not estimate either the average time that a set-up and tear-down cycle takes on a particular machine, its average runtime, or the average number of cycles that a machine goes through in a particular operation on a given tour, even though much of this data appears to be readily retrievable from the MODS system. USPS-T-16 at 36.

What can be said based on this incomplete record is that higher volume is likely to lengthen runs within a scheme without multiplying set-up and tear-down cycles. But this response to volume has limits. Narrow processing windows can severely restrict the opportunity to lengthen runs for a given scheme. For example, Postal Service witness O'Tormey comments that the Philadelphia SCF has 12 FSM 881s, but attempts an incoming secondary sort for only 15 of its 54 zones because the processing window doesn't allow time for more. To lengthen runs for some zones would require giving up runs on others. Tr. 21/8379.

In the scenario outlined by witness Neels, added volume eventually leads to added machines, each machine replicating existing per-machine costs in all respects, including set-up and tear-down costs. This scenario would apply where a sort scheme can be spread over multiple machines. Replication of schemes is apparently common for incoming primary schemes, but not incoming secondary schemes. Tr. 5/1672. It

appears that, at least for incoming primary sorts, set-up and tear-down costs should grow in proportion to volume, as witness Neels contends.

This should also be true of set-up and tear-down time incurred when increased volume makes it cost effective to add parallel schemes. A minimum level of volume is needed before it becomes cost effective to put an incoming secondary scheme on a sorting machine. The minimum for FSM 881s, the most common flat sorting machine, appears to be around 4,000 pieces. Tr. 21/8368. To avoid low volume runs, the Postal Service recommends that these machines perform incoming secondaries only on zones that have 10 or more carrier routes. Tr. 5/1977. Zones with 10 or more carrier routes make up less than a fourth of all zones. Tr. 5/1758. As volumes rise, more and more of these manually processed zones should be expected to cross the threshold that makes machine processing viable, replicating the parallel, manual scheme. To the extent that added volume brings zones above the threshold, the associated set-up times will be volume variable.

As volumes rise to a given zone, it becomes economical to sort that volume on separate schemes. For example, for incoming secondary sorts, if there is sufficient volume, the Postal Service prefers to sort flats for a given zone by a scheme for First-Class and another scheme for Standard A mail. USPS-ST-43 at 9. It also prefers to subdivide these schemes into schemes for flats that are machinable on an FSM 881 and flats that are machinable only on an FSM 1000. With more volume, these schemes can be subdivided into separate schemes for barcoded and non-barcoded mail. More volume will allow the non-barcoded mail to be subdivided into separate schemes for OCR-readable, and non-OCR readable mail. *Id. at* 14; USPS-T-10 at 15-16. In this way, rising volume causes parallel schemes to proliferate, and set-up and tear-down cycles to proliferate with them. The associated set-up and tear-down time should be considered volume variable.

To judge the reasonableness of witness Bozzo's variability estimates for machine-based sorting operations, it would be necessary to measure the ratio of set-up and tear-down time to total time in those operations. It appears that this need is confined

to FSM and SPBS operations, since witness Degen agrees that set-up and tear-down times are small in the OCR and BCS operations.

On the SPBS, witness Kingsley estimates that each set-up and tear-down cycle takes between 15 and 30 minutes. She estimates that an SPBS is likely to run two sort plans per day—a Priority Mail plan lasting about 5 hours, and a bundle plan lasting about 10 hours. This would imply that a ratio of fixed set-up and tear-down time to total time might range from about 3 percent to about 7 percent. Tr. 5/2116. Although somewhat anecdotal, this evidence is at odds with witness Degen's characterization of these costs as "substantial." USPS-T-16 at 46. If witness Kingsley's estimate is accurate, set-up and tear-down time doesn't begin to identify enough fixed costs to explain why 46 percent of the labor costs for the SPBS operation does not respond to volume, as witness Bozzo estimates.

In the FSM operation, witness Unger estimates that set-up and tear-down time might average between 20 to 30 percent of total processing time. Tr. 21/8262. If witness Unger's impression is accurate, set-up and tear-down time might provide a credible explanation for the 82 percent volume variability that witness Bozzo estimates. But this assumes that all set-up and tear-down time is fixed, not just on a daily basis, but over the range of volumes that would be observed in the long run. Over the six-year period modeled by witness Bozzo, flats volumes grew by almost 30 percent, while the average number of FSMs per facility more than doubled. Under these circumstances, the tendency of volume increases to allow more and more parallel schemes to be run on FSMs implies that a significant portion of set-up and tear-down time in the FSM operation grows in proportion to volume. Accordingly, the record is inconclusive on the issue of the reasonableness of witness Bozzo's variability estimate for the FSM operation.

It is possible that set-up and tear-down time accounts for a substantial portion of total time in FSM and SPBS operations, as witness Degen asserts. Analysis of detailed MODS data associating runtime and downtime with specific schemes could at least establish what the proportions of set-up and tear-down time actually are, even if they would not resolve all questions concerning their variability. Given the central role that

set-up and tear-down time plays in the Postal Service's theories of mail processing variability, the Postal Service's ready access to data that would document set-up and tear-down time, and the controversy surrounding the Postal Service variability estimates, it is incumbent on the Postal Service to document actual proportions of set-up and tear-down time to processing time if it continues to assert that a large proportion of labor costs in mail processing operations is fixed.

BCS variability. Witness Degen observes that BCS operations involve only a "small amount of setup and takedown work that will not be volume variable." Therefore, he would expect the variability of BCS operations to be "not quite 100 percent, due to short periods of down time during scheme changes and dispatches." *Id. at* 39.

Noting the insignificance of setup and teardown time does not explain why the variability of the BCS operation (89.5 percent) should be substantially less than proportional. Nor does it explain why BCS variability should be substantially less than the Letter Sorting Machine (LSM) operation (95 percent), and the Remote Encoding Center (REC) operation (100 percent), both of which are worker-paced keying operations. Witness Degen cites "worker pacing" as a major reason for expecting other keying operations (FSM and SPBS) to have lower variability than automated operations. *Id. at* 42, 46. In addition, the LSM operation is a "backstop" operation [*Id. at* 53], while the REC operation has the same "gateway" function as the OCR operation. See *Id. at* 39-40.   It is inconsistent with witness Degen's variability theories for an automated operation like BCS to exhibit lower variability than gateway and backstop operations, especially those that are worker paced.

OCR variability. Witness Degen asserts that OCR operations, including its feeder and sweeper activities, are analogous to those of the BCS, implying that OCR set-up and tear-down times are small. He notes that this would lead one to expect that the variability of these two machine-paced operations would be similar. *Id. at* 37-38. Witness Bozzo, however, estimates a variability for OCR operations that is much lower (75 percent compared to 89.5 percent for BSC).

> Witness Degen explains this unexpectedly low variability by asserting that OCR operations function as a gateway for non-barcoded letters. In order to meet outgoing dispatch times, the OCRs may be started and staffed with a feeder and sweeper before an ample backlog of mail is available to ensure uninterrupted operation. The OCRs may start and stop early in the evening as collection volumes ramp up. For this reason, I would expect the OCR volume-variability to be relatively high, but less than the BCS.

Id. at 40.

As discussed above, the Postal Service's variability estimates imply that more than 45 percent of the labor costs in the Cancellation operation reflect overstaffing. Witness Degen explains that these fixed costs consist of overstaffing of the peak periods in this operation. There, witness Degen explains that the purpose of this overstaffing is to make sure that there is a backlog of mail available to the OCR operation before it begins, since it is urgent that the OCR machines run without interruption. Here he explains that it is reasonable to expect 25 percent of the labor costs in the OCR operation to be fixed because the Cancellation operation may not provide it with a sufficient backlog of mail to allow it to run without interruption.

The assertion that plant managers operate OCRs at 75 percent capacity, on average, because it often doesn't have enough mail volume at the beginning of the operation conflicts with witness Degen's assertion that managers build in huge amounts of overcapacity into the Cancellation operation specifically to avoid this. It is also in conflict with witness Degen's description of the REC operation. As discussed above, both the OCR and the REC operation serve as gateways to the BSC operation. According to witness Degen, a backlog of work is maintained in the REC to ensure uninterrupted operation, which in part explains why its estimated variability is 100 percent. *Id. at* 40. Since both the REC and the OCR operations act as gateways to the BSC, it is not clear why managers would consistently maintain a backlog of work in the REC operations, and allow the OCR to be operated sporadically.[8] As noted earlier, the assertion that plant managers choose to operate their OCRs substantially below capacity is also at odds with the testimony of other Postal Service witnesses who assert that

management policy is to match staff to expected workload, rather than intentionally run operations at less than capacity.

The assertion that it is common for plant managers to operate their OCRs substantially below capacity is also inconsistent with common sense. If it is considered urgent that OCRs begin processing while the Cancellation operation is ramping up, a more rational approach is to stagger the start time of the OCR machines to match the ramp up of the Cancellation operation. Examples of this technique for managing ramp up periods in both Cancellation and sorting operations are described in earlier dockets. *See, e.g.,* Docket No. R87-1, Response of United States Postal Service (USPS-12-73) to the Alliance of Nonprofit Mailers, Question USPS-14, Attachment 14-1 at 5 of 11.

The only reason that witness Degen offers to explain why one would expect to find substantial fixed costs in the OCR operation is that managers might begin that operation before they have enough mail to process. That explanation is not consistent with witness Degen's description of the Cancellation and REC operations. Nor is it consistent with the consensus of other operational witnesses that long-standing practice is to staff machine-based operations to expected workload, rather than run them substantially below capacity. Accordingly, witness Degen's explanation for expecting that a substantial proportion of OCR labor are fixed lacks credibility.

Platform operations. Witness Bozzo estimates that only 54.3 percent of platform costs vary with volume. Witness Degen argues that labor costs in platform operations are highly insensitive to changes in volume because "platform operations are gateways and backstops that must be staffed for peaks, rather than average workload, creating spare capacity." USPS-T-16 at 51. The only specific activity that requires excess labor capacity that witness Degen discusses is the loading and unloading of trucks at the dock. He explains that trucks have limited windows for loading and unloading in order to stay

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[8]   Witness Degen testifies that until recently, the OCR would provide the REC with its stock of images to read. USPS-T-16 at 33, n. 6. This means that most of the panel data on OCR handlings on which witness Bozzo based his variability estimates should reflect an operating environment in which the OCR was the source of the images provided to the REC, and therefore the processing window was the same for both operations.

on schedule. Consequently, the workers who load and unload trucks have "some waiting time between trucks." He notes that "much of this time can be spent productively" on support activities, but asserts that a portion of the waiting time is simply unavoidable. Since truck schedules are variable, the waiting time is necessary so the vehicles can be quickly loaded or unloaded. The waiting time is not volume-variable. Increased volumes may cause increases in truck size, but it would not likely increase the number of trucks. *Id. at* 50.

Witness Degen agrees that if mail has been arriving in trucks at unpredictable intervals in the base period, and then higher volumes arrive at similarly unpredictable intervals, the Postal Service is likely to increase the size of the trucks that arrive, rather than their number or frequency. He draws the inference from this that waiting time at the dock will not be volume variable, and therefore platform variability will be less than 100 percent. USPS-T-16 at 50. Witness Degen fails to consider that under his scenario, waiting time does not drive staffing on the platform in the first place. Under his scenario, the time spent handling mail drives the size of the staff on the platform. If volumes increase, and trucks arriving at unpredictable intervals have larger loads than they did in the base period, workload present during the time mail is handled will increase, and the size of the crew needed to handle it as quickly as before should be expected to increase in proportion. The effect of larger loads arriving unpredictably at the platform should be no different than the effect of larger loads of collection mail arriving unpredictably at the Cancellation operation discussed above. For the reasons cited by witnesses Neels and Stralberg, the result of volume increases that adhere to existing arrival patterns should be a proportional increase in labor costs. Tr. 27/12825, Tr. 38/17282.

Witness Degen argues that the labor costs of moving containers within the facility will not necessarily rise in proportion to volume, because increases in volume, over a limited range, might simply result in fuller containers. *Id. at* 50-51. Witness Neels observation concerning the variability of costs that are a step function of volume would seem to apply here. As a machine is used to capacity (or a container fills to capacity) there are economies of scale, but as higher volume fills capacity and requires an additional,

partially filled machine (or container), diseconomies of scale set in. The net effect of such cycles should be a proportional increase in labor costs, as added volume requires replication of the costs of running the machine (or of moving the container). *See* Tr. 27/12820-24.

Witness Degen observes that the time spent opening and closing trucks should vary in proportion to the number of trucks, but he argues that increases in volume could result in fuller trucks or larger trucks rather than an increase in the number of trucks. This he contends, would cause a less than proportional increase labor costs. There is no reason to dispute witness Degen's analysis of the costs of opening and closing trucks as being less than proportional. But this is the only platform activity for which witness Degen has provided a credible theory for why its labor costs might be partly fixed.

The record does not indicate what proportion of the workhours in the platform operation consists of time spent opening and closing trucks. The labor cost associated with platform operations, however, are over $1 billion dollars. In terms of cost, platform is the second largest of all the mail processing operations. It is unlikely that the cost of opening and closing trucks is significant in relation to the time that it takes to load and unload trucks. It is even less likely that it is a significant portion of the total of the myriad support activities that occur in the Platform operation. Even if this cost were entirely fixed, the cost of opening and closing trucks couldn't begin to explain why less than 55 percent of the costs associated with this billion dollar operation should be expected to vary with volume. As noted, none of witness Degen's other operational analyses of Platform operations provide plausible explanations for this very low percentage of variable labor costs.

Schedule 1

Test Year Volume, Cost, Revenue, and Cost Coverage by Class
at Commission Recommended Rates

	Volume (000)	Attributable Cost ($ 000)	Revenue ($ 000)	Contribution to Institutional Cost ($ 000)	Cost/Pc. (Cents)	Rev./Pc. (Cents)	Contribution to Institutional Cost/Pc. (Cents)	Cost Coverage	Change in Rev./Pc.
First-Class Mail:									
Letters	100,149,186	19,989,490	35,749,605	15,760,115	19.960	35.696	15.737	178.8%	1.8%
Cards	5,577,450	776,552	1,032,472	255,920	13.923	18.512	4.588	133.0%	0.4%
Priority Mail	1,243,245	3,509,283	5,680,265	2,170,982	282.268	456.890	174.622	161.9%	16.0%
Express Mail	72,819	699,982	1,058,875	358,893	961.259	1,454.113	492.854	151.3%	3.6%
Mailgrams	3,340	852	1,136	284	25.508	34.012	8.504	133.3%	0.0%
Periodicals:									
Within County	880,587	82,487	82,709	222	9.367	9.393	0.025	100.3%	6.8%
Outside County 1/	9,488,154	2,292,524	2,295,034	2,509	24.162	24.188	0.026	100.1%	10.0%
Standard Mail:									
Regular	41,000,842	6,603,281	9,075,572	2,472,291	16.105	22.135	6.030	137.4%	8.8%
Enhanced Carrier Route (ECR)	32,905,893	2,586,132	5,156,258	2,570,126	7.859	15.670	7.811	199.4%	4.5%
Nonprofit	11,463,830	1,416,305	1,520,815	104,510	12.355	13.266	0.912	107.4%	4.8%
Nonprofit ECR	2,844,821	195,819	266,550	70,732	6.883	9.370	2.486	136.1%	18.3%
Package Services:									
Parcel Post	367,601	1,035,737	1,189,645	153,908	281.756	323.624	41.868	114.9%	2.7%
Bound Printed Matter	530,951	492,269	560,714	68,445	92.715	105.606	12.891	113.9%	17.6%
Media Mail	203,076	326,995	333,087	6,092	161.021	164.020	3.000	101.9%	6.3%
Library Rate	28,403	52,130	49,804	(2,326)	183.537	175.350	(8.188)	95.5%	4.9%
USPS Penalty Mail	348,543								
Free-for-the-Blind Mail	56,675	33,265		(33,265)	58.695				
International Mail 2/	1,031,627	1,674,289	1,778,959	104,670	162.296	172.442	10.146	106.3%	3.8%
Total All Mail	208,197,044	41,767,392	65,831,499	24,064,107	20.061	31.620	11.558	157.6%	4.4%
Special Services:									
Registry	10,966	73,504	96,301	22,797	670.307	878.202	207.895	131.0%	23.2%
Insurance	44,783	77,466	97,204	19,738	172.982	217.056	44.074	125.5%	13.1%
Certified	279,926	448,045	531,859	83,815	160.058	190.000	29.942	118.7%	35.7%
COD	3,544	16,874	19,981	3,107	476.148	563.828	87.679	118.4%	9.7%
Money Orders	239,753	183,899	282,180	98,281	76.704	117.696	40.992	153.4%	-4.1%
Stamped Cards	430,277	3,020	8,606	5,586	0.702	2.000	1.298	285.0%	100.0%
Stamped Envelopes	400,000	10,849	16,041	5,192	2.712	4.010	1.298	147.9%	28.2%
Box/Caller Service	17,943	577,654	800,777	223,123	3,219.446	4,462.982	1,243.536	138.6%	9.0%
Other Special Services		1,055	417,676	416,621					
Other Costs		177,042		(177,042)					
Other Income			687,847	687,847					
Total Mail & Services	208,197,044	43,336,799	68,789,970	25,453,171	20.815	33.041	12.226	158.7%	4.6%
Institutional Costs		25,170,638							
Prior Years Loss Recovery		311,709							
Appropriations			67,093						
Investment Income			(20,168)						
Total Revenue Requirement		68,819,146							
Total Revenues			68,836,895						
Net Surplus (Loss)			17,749						

1/ Regular Rate, Nonprofit, and Classroom are now rate categories of the new Outside County subclass.
2/ Not subject to PRC jurisdiction.

Schedule 2

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

FIRST CLASS		Units (000)	Rate (cents)	Revenues (000)
Letters & Sealed Parcels Subclass				
Regular				
Single-Piece				
First-ounce		52,439,254	34.0	17,829,346
Additional ounces		19,952,919	21.0	4,190,113
Nonstandard Pieces		475,354	11.0	52,289
Qualified Business Reply Mail		389,641	31.0	120,789
Total Pieces (or Postage Revenue)		52,828,895		22,192,537
Revenue x Adjustment Factor				22,399,371
Single-Piece Fees	Address Correction			23,832
	Business Reply			149,278
	Certificate of Mailing			4,408
Total Single-Piece Revenue				22,576,889
Presort				
First-ounce		2,478,209	32.0	793,027
Heavy-Piece Discount		127,539	(4.6)	(5,867)
Additional ounces		483,392	21.0	101,512
Nonstandard Pieces		23,630	5.0	1,181
Total Pieces (or Postage Revenue)		2,478,209		889,854
Revenue x Adjustment Factor				894,217
Presort Fees	Address Correction			1,118
	Certificate of Mailing			9
	Presort Permit			321
	Merch. Ret. Permit			3
Total Presort Revenue				895,668
Total Regular Letters		**55,307,104**		**23,472,557**
Automation				
Non-Carrier Route				
Letters				
Basic Automation, First Oz.		5,666,123	27.8	1,575,182
3-Digit, First Oz.		24,795,323	26.7	6,620,351
5-Digit, First Oz.		12,444,571	25.3	3,148,476
Heavy-Piece Discount		87,939	(4.6)	(4,045)
Additional Ounces		1,163,972	21.0	244,434
Flats				
Basic Automation, First Oz.		53,099	31.0	16,461
3-Digit, First Oz.		33,692	29.5	9,939
5-Digit, First Oz.		275,413	27.5	75,738
Heavy-Piece Discount		153,669	(4.6)	(7,069)
Additional Ounces		790,494	21.0	166,004
Nonstandard Pieces		71,212	5.0	3,561
Total Pieces (or Postage Revenue)		43,268,221		11,849,033
Revenue x Adjustment Factor				11,853,654
Carrier Route				
First Ounce		1,573,861	24.3	382,448
Heavy-Piece Discount		6,487	(4.6)	(298)
Additional Ounces		69,560	21.0	14,608
Total Pieces (or Postage Revenue)		1,573,861		396,757
Revenue x Adjustment Factor				397,133
Automation Fees	Address Correction			20,229
	Certificate of Mailing			168
	Presort Permit			5,813
	Merch. Ret. Permit			51
Total Automation Letters		**44,842,082**		**12,277,048**
Total First-Class Letters		**100,149,186**		**35,749,605**

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

FIRST CLASS (cont)		Units (000)	Rate (cents)	Revenues (000)
Cards Subclass				
Regular				
Single-Piece				
Stamped Cards		430,277	20.0	86,055
Post Cards at Card Rate		2,233,693	20.0	446,739
Post Cards at Letter Rate		112,339	34.0	38,195
Qualified Business Reply Mail		62,257	17.0	10,584
Total Pieces (or Postage Revenue)		2,838,566		581,573
Revenue x Adjustment Factor				583,263
Single-Piece Fees	Address Correction			1,281
	Business Reply			8,314
	Certificate of Mailing			237
Total Single-Piece Revenue				593,094
Presort				
Cards		401,721	18.0	72,310
Total Pieces (or Postage Revenue)		401,721		72,310
Revenue x Adjustment Factor				72,312
Presort Fees	Address Correction			181
	Certificate of Mailing			2
	Presort Permit			52
Total Presort Revenue				72,547
Total Regular Cards		**3,240,287**		**665,640**
Automation				
Non-Carrier Route				
Basic Automation Cards		564,863	16.4	92,638
3-Digit Cards		967,269	15.8	152,829
5-Digit Cards		663,155	15.1	100,136
Total Pieces (or Postage Revenue)		2,195,287		345,602
Revenue x Adjustment Factor				345,602
Carrier Route				
Cards		141,876	14.0	19,863
Total Pieces (or Postage Revenue)		141,876		19,863
Revenue x Adjustment Factor				19,863
Automation Fees	Address Correction			1,054
	Certificate of Mailing			9
	Presort Permit			303
Total Automation Cards		**2,337,163**		**366,831**
Total First-Class Cards		**5,577,450**		**1,032,471**
TOTAL FIRST-CLASS MAIL		**105,726,636**		**36,782,077**

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

Priority Mail

Zone	Pieces		Revenues
Local, 1, 2, 3	507,318,296	$	2,153,958,901
4	175,712,006	$	786,195,995
5	203,360,463	$	933,101,496
6	117,552,860	$	543,194,437
7	82,107,089	$	401,836,181
8	157,194,285	$	819,369,552
	1,243,245,000	$	5,637,656,562

times base year revenue adjustments		1.006870119
Revenue from rates	**$**	**5,676,387,935**
Pickup revenue	$	2,972,000
Revenue from fees		
Address Correction	$	100,616
Business Reply	$	666,720
Certificate of Mailing	$	95,985
Merchandise Return	$	41,349
Total revenue from fees	$	904,670
Total Priority Mail Revenue	**$**	**5,680,264,605**

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

Express Mail

	Pieces		Revenues
Same day service	-	$	-
Next day - post office to addressee	71,931,822	$	1,012,917,030
Next day - post office to post office	494,601	$	25,355,995
Customer designed	392,576	$	15,512,969
Total Domestic Service	72,819,000	$	1,053,785,994
Pick-up Revenue		$	5,089,051
Total Express Mail Revenue		$	**1,058,875,045**

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

PERIODICALS - Within County

	Rate (cents)	Pieces (000)	Pounds (000)	Revenues (000)
Piece Rate Revenue				
Basic Presort	10.0	62,238		$6,223.8
3-Digit Presort	9.2	48,085		4,423.8
5-Digit Presort	8.3	160,140		13,291.6
Carrier Route Presort	4.7	610,124		28,675.8
		880,587		
Pound Rate Revenues				
Regular	14.4		132,529	19,084.2
Delivery Office	11.3		117,642	13,293.5
Piece Discounts				
High density	(1.5)	64,483		(967.3)
Saturation	(2.1)	29,477		(619.0)
Delivery office entry	(0.5)	346,954		(1,734.8)
Automation Discounts for Automation Compatible Mail				
from Required:				
Pre-barcoded letters	(5.1)	388		(19.8)
Pre-barcoded flats	(2.7)	730		(19.7)
from 3-Digit:				
Pre-barcoded letters	(4.5)	2,396		(107.8)
Pre-barcoded flats	(2.4)	2,492		(59.8)
from 5-Digit:				
Pre-barcoded letters	(3.9)	2,925		(114.1)
Pre-barcoded flats	(2.1)	23,511		(493.7)
Revenue from Rates				80,856.8
Times Correction Factor	0.999609376			$80,825.2
Fees				
Address Correction				1,824.7
Periodicals Application				59.3
Total Fees				1,884.1
TOTAL PERIODICALS -Within County				$82,709.3

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

PERIODICALS - Nonprofit

		Rate (cents)	Pieces (000)	Pounds (000)	Revenues (000)
Pound Rate Revenue					
Advertising					
	Delivery Office	14.8		159	24
	SCF	18.8		39,916	7,504
	Zone: 1 & 2	23.0		19,437	4,471
	3	24.5		12,080	2,960
	4	28.3		20,466	5,792
	5	34.1		21,799	7,433
	6	40.1		8,359	3,352
	7	47.4		5,294	2,510
	8	53.7		5,494	2,950
Nonadvertising		17.3		449,850	36,994
					77,824
Advertising - Commingled					
	Delivery Office	14.8		0	0
	SCF	18.8		152	29
	Zone: 1 & 2	23.0		168	39
	3	24.5		45	11
	4	28.3		71	20
	5	34.1		157	54
	6	40.1		35	14
	7	47.4		26	12
	8	53.7		1	0
Non-advertising - Commingled		17.3		454	179
					79
Piece Rate Revenue					
Required Preparation		32.5	132,122		42,940
Presorted to 3-digit		27.6	272,768		75,284
Presorted to 5-digit		21.4	538,915		115,328
Presorted to Carrier Route		13.6	1,118,274		152,085
Commingled, Required Preparation		32.5	180		59
Presorted to 3-digit		27.6	528		146
Presorted to 5-digit		21.4	1,852		396
Presorted to Carrier Route		13.6	498		68
					385,637
					669
Piece Discounts					
Prepared to Delivery Office		(1.7)	2,619		(45)
Prepared to SCF		(0.8)	487,553		(3,900)
High-Density		(2.5)	50,581		(1,265)
Saturation		(4.3)	11,327		(487)
Editorial content		(6.5)	1,725,441		(112,154)
Commingled					(117,850)
Delivery Office		(1.7)	0		0
Prepared to SCF		(0.8)	700		(6)
Editorial Discount		(6.5)	1,348		(88)
					(93)
Automation Discounts for Automation Compatible Mail					
from Required:					
Pre-barcoded letters		(6.5)	19,689		(1,280)
Pre-barcoded flats		(4.1)	22,155		(908)
from 3-Digit:					(2,188)
Pre-barcoded letters		(5.1)	33,975		(1,733)
Pre-barcoded flats		(3.4)	154,623		(5,257)
from 5-Digit:					(6,990)
Pre-barcoded letters		(4.0)	2,414		(97)
Pre-barcoded flats		(2.4)	414,744		(9,954)
Commingled:					(10,051)
Basic Letter		(6.5)	1		0
Basic Flat		(4.1)	13		(1)
3-Digit Flat		(3.4)	425		(15)
5-Digit Flat		(2.4)	1,701		(41)
High Density		(2.5)	0		0
					(56)
Postage not receiving 5% discount					37,771
Postage receiving 5% discount					326,382
Discount (5%)					(16,319)
Total					347,834
	Times Correction Factor	1.008761			350,881
Fees	Address Correction				4,279
	Periodicals Application				139
					4,419
TOTAL PERIODICALS -- Nonprofit					**355,300**

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

PERIODICALS - Classroom

			Rate (cents)	Pieces (000)	Pounds (000)	Revenues (000)
Pound Rate Revenue						
Advertising						
	Delivery Office		14.8		0	$0.0
	SCF		18.8		184	34.6
	Zone:	1 & 2	23.0		306	70.3
		3	24.5		548	134.2
		4	28.3		1,028	290.9
		5	34.1		1,052	358.7
		6	40.1		213	85.6
		7	47.4		289	137.1
		8	53.7		406	218.2
Nonadvertising			17.3		28,040	1,330
						4,851
Piece Rate Revenue						
Required Preparation			32.5	9,132		2,968.0
Presorted to 3-digit			27.6	15,040		4,150.9
Presorted to 5-digit			21.4	16,426		3,515.2
Presorted to Carrier Route			13.6	14,773		2,009.1
						12,643
Piece Discounts						
Prepared to Delivery Office			(1.7)	79		(1.3)
Prepared to SCF			(0.8)	2,307		(18.5)
High-Density			(2.5)	0		0.0
Saturation			(4.3)	134		(5.8)
Editorial content			(6.5)	50,973		(3,313.3)
						(3,339)
Automation Discounts for Automation Compatible Mail						
from Required:						
Pre-barcoded letters			(6.5)	44		(2.9)
Pre-barcoded flats			(4.1)	1,436		(58.9)
from 3-Digit:						
Pre-barcoded letters			(5.1)	25		(1.3)	(62)
Pre-barcoded flats			(3.4)	8,804		(299.3)
						(301)
from 5-Digit:						
Pre-barcoded letters			(4.0)	5		(0.2)
Pre-barcoded flats			(2.4)	12,539		(300.9)
						(301)
Postage not receiving 5% discount						----------------
Postage receiving 5% discount						1,330
Discount (5%)						13,492
Total						(675)
		Times Correction Factor	1.000282			14,147
Fees:	Address Correction				114.7	14,151
	Periodicals Application				3.7	
						118
TOTAL PERIODICALS -- Classroom						--------------
						14,269

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

PERIODICALS - Regular Rate

		Rate (cents)	Pieces (000)	Pounds (000)	Revenues (000)	
Pound Rate Revenue		----------	----------	----------	----------	
Advertising						
	Delivery Office	14.8		16,225	2,401	
	SCF	18.8		706,665	132,853	
	Zone: 1 & 2	23.0		312,285	71,825	
	3	24.5		147,590	36,160	
	4	28.3		199,655	56,502	
	5	34.1		181,426	61,866	
	6	40.1		73,442	29,450	
	7	47.4		52,595	24,930	
	8	53.7		50,322	27,023	
Nonadvertising		17.3		2,007,157	347,238	443,010
Science of Agriculture						347,238
	Delivery office	11.1		81	9	
	SCF	14.1		1,968	278	
	Zones 1&2	17.3		4,443	769	
						1,055
Piece Rate Revenue						
	Required Preparation	32.5	590,145		191,797	
	Presorted to 3-Digit	27.6	1,396,268		385,370	
	Presorted to 5-Digit	21.4	2,422,776		518,474	
	Presorted to Carrier Route	13.6	2,958,457		402,350	
						1,497,991
Piece Discounts						
	Prepared to Delivery Office	(1.7)	56,578		(962)	
	Prepared to SCF	(0.8)	2,724,336		(21,795)	
	High Density	(2.5)	20,878		(522)	
	Saturation	(4.3)	20,332		(874)	
	Editorial content	(6.5)	4,250,121		(276,258)	
						(300,411)
Automation Discounts for Automation Compatible Mail						
From Required:						
	Pre-barcoded letter	(6.5)	45,066		(2,929)	
	Pre-barcoded flats	(4.1)	121,517		(4,982)	
						(7,912)
From 3-Digit:						
	Pre-barcoded letter	(5.1)	36,991		(1,887)	
	Pre-barcoded flats	(3.4)	915,478		(31,126)	
						(33,013)
From 5-Digit:						
	Pre-barcoded letter	(4.0)	1,045		(42)	
	Pre-barcoded flats	(2.4)	1,979,318		(47,504)	
						(47,545)

						1,900,415
		Times Correction Factor	0.999625			1,900,415
Fees						1,899,701
	Address Correction				15,267	
	Periodicals Application				497	
						15,763
Ride-Along revenue						
						10,000
TOTAL PERIODICALS -- Regular Rate						------------------
						1,925,465

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

	Unit	Rate ($)	TYAR Volume (000)		Revenue (000)	
Standard Mail Regular Subclass						
Presort Category						
Letters						
Basic	per piece	$0.250	923,520		$230,880	
3/5-Digit	per piece	0.230	1,124,471		258,628	
subtotal				2,047,991		$489,508
Nonletters, Piece-Rated						
Basic	per piece	0.319	449,452		143,375	
3/5-Digit	per piece	0.263	732,961		192,769	
subtotal				1,182,413		336,144
Nonletters, Pound-Rated						
Basic	per piece	0.181	585,307		105,941	
3/5-Digit	per piece	0.125	1,047,316		130,915	
subtotal				1,632,623		236,856
Basic	per pound	0.668	269,641		180,120	
3/5-Digit	per pound	0.668	522,584		349,086	
subtotal				792,225		529,206
			pieces >	4,863,027		1,591,714
Dropship Discounts:						
Piece-Rated						
BMC	per piece	(0.019)	450,262		(8,555)	
SCF	per piece	(0.024)	612,322		(14,696)	
subtotal				1,062,584		(23,251)
Pound-Rated						
BMC	per pound	(0.093)	156,011		(14,509)	
SCF	per pound	(0.114)	104,197		(11,878)	
subtotal				260,208		(26,387)
Revenue from Rates			pieces >	**4,863,027**		**$1,542,076**
Fees						
Address Correction					$2,464.5	
Bulk Permit					735.1	
Certificate of Mailing					0.3	
BPRS Permit					0.8	
						$3,200.7
Total Revenue -- Presort Category						**$1,545,277**

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

	Unit	Rate ($)	TYAR Volume (000)	Revenue (000)	
Standard Mail Regular Subclass (con)					
Automation Category					
Letters					
Basic	per piece	0.197	4,212,972	829,955	
3-Digit	per piece	0.187	14,140,236	2,644,224	
5-Digit	per piece	0.174	6,132,064	1,066,979	
subtotal			24,485,272		4,541,158
Flats, Piece-Rated					
Basic	per piece	0.275	166,597	45,814	
3/5-Digit	per piece	0.236	5,811,343	1,371,477	
subtotal			5,977,940		1,417,291
Flats, Pound-Related					
Basic	per piece	0.137	176,426	24,170	
3/5-Digit	per piece	0.098	5,498,175	538,821	
subtotal			5,674,601		562,991
Basic	per pound	0.668	71,280	47,615	
3/5-Digit	per pound	0.668	1,845,089	1,232,519	
subtotal			1,916,369		1,280,134
	pieces >		36,137,813		7,801,574
Dropship Discounts					
Piece-Rated					
BMC	per piece	(0.019)	9,741,227	(185,083)	
SCF	per piece	(0.024)	4,240,966	(101,783)	
			13,982,193		(286,866)
Pound-Rated					
BMC	per pound	(0.093)	635,368	(59,089)	
SCF	per pound	(0.114)	667,583	(76,104)	
			1,302,951		(135,193)
Revenue from Rates		pieces >	**36,137,813**		**$7,379,515**
Fees					
Address Correction				$ 13,353.4	
Bulk Permit				5,462.5	
Certificate of mailing				2.4	
BPRS Permit				5.8	
					18,824
Total Revenue -- Automation Category					**$7,398,339**
Regular Subclass Total					
Total Postage/Pieces (excluding fees)			41,000,840	$	8,921,591
Times Revenue Adjustment Factor					1.00077
Adjusted Revenue					8,928,461
Plus Fees					22,025
Plus Residual Shape Revenue					143,229
Barcode Discount					(18,142)
Total Revenue - Regular				$	**9,075,572**
Revenue per Piece				$	0.2214

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

	Unit	Rate ($)	TYAR Volume (000)		Revenue (000)	
Standard Mail (con)						
Enhanced Carrier Route Subclass						
Letters						
Basic	per piece	$0.176				
Automated	per piece	0.155	5,457,058		$960,442	
High Density	per piece	0.151	1,911,918		296,347	
Saturation	per piece	0.143	397,054		59,955	
subtotal			2,709,845		387,508	
				10,475,875		$1,704,252
Nonletters, Piece-Rated						
Basic	per piece	0.176				
High Density	per piece	0.154	6,171,486		1,086,182	
Saturation	per piece	0.147	852,423		131,273	
subtotal			6,613,038		972,117	
				13,636,947		2,189,572
Nonletters, Pound-Rated						
Basic	per piece	0.044				
High Density	per piece	0.022	5,577,856		245,426	
Saturation	per piece	0.015	623,140		13,709	
subtotal			2,592,075		38,881	
				8,793,071		298,016
Basic	per pound	0.638				
High Density	per pound	0.638	1,773,710		1,131,627	
Saturation	per pound	0.638	228,540		145,809	
subtotal			792,694		505,739	
				2,794,944		1,783,175
		pieces >	32,905,893		$5,975,015	
Dropship Discounts						
Piece-Rated						
BMC		(0.019)				
SCF		(0.024)	3,881,243		(73,744)	
DDU		(0.029)	12,283,776		(294,811)	
subtotal			5,053,880		(146,563)	
				21,218,899		(515,118)
Pound-Rated						
BMC		(0.093)				
SCF		(0.114)	297,699		(27,686)	
DDU		(0.140)	1,605,868		(183,069)	
subtotal			791,618		(110,827)	
				2,695,185		(321,582)
Revenue from Rates						
		pieces >	**32,905,893**		**$5,138,315**	
Fees						
Address Correction					10,778.7	
Bulk Permit					4,974.0	
Certificate of Mailing					2.2	
BPRS Permit					5.3	
					15,760	
Enhanced Carrier Route Subclass Total						
Total Postage/Pieces (excluding fees)			32,905,893		$	5,138,315
Times Revenue Adjustment Factor						0.99977
Adjusted Revenue						5,137,133
Plus Fees						15,760
Plus Residual Shape Revenue						3,365
Total Revenue - Enhanced Carrier Route					$	**5,156,258**
Revenue per Piece					$	0.1567

Commission Recommended Fees

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

	Unit	Rate ($)	TYAR Volume (000)		Revenue (000)	
Standard Class Nonprofit						
Presort Category						
Letters						
Basic	per piece	$0.155				
3/5-Digit	per piece	0.143	965,336		$149,627	
subtotal			1,784,390		255,168	
				2,749,726		$404,795
Nonletters, Piece-Rated						
Basic	per piece	0.217				
3/5-Digit	per piece	0.168	156,363		33,931	
subtotal			240,306		40,371	
				396,669		74,302
Nonletters, Pound-Rated						
Basic	per piece	0.104				
3/5-Digit	per piece	0.055	76,080		7,912	
subtotal			88,873		4,888	
				164,953		12,800
Basic	per pound	0.550				
3/5-Digit	per pound	0.550	29,073		15,990	
subtotal			29,637		16,300	
				58,710		32,290
			pieces >	3,311,348		524,187
Dropship Discounts:						
Piece-Rated						
BMC	per piece	(0.019)				
SCF	per piece	(0.024)	114,713		(2,180)	
subtotal			984,457		(23,627)	
				1,099,170		(25,807)
Pound-Rated						
BMC	per pound	(0.093)				
SCF	per pound	(0.114)	3,095		(288)	
subtotal			5,786		(660)	
				8,881		(948)
Revenue from Rates						
			pieces >	**3,311,348**		**$497,432**
Fees						
Address Correction					$477.1	
Bulk Permit					13,137.7	
Certificate of Mailing					0.2	
BPRS Permit					0.5	
					$13,615.6	
Total Revenue -- Presort Category						
					$511,048	

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

	Unit	Rate ($)	TYAR Volume (000)		Revenue (000)	
Standard Class Nonprofit (con)						
Automation Category						
Letters						
Basic	per piece	0.130				
3-Digit	per piece	0.120	1,491,283		193,867	
5-Digit	per piece	0.105	3,380,284		405,634	
subtotal			1,954,682		205,242	
				6,826,249		804,743
Flats, Piece-Rated						
Basic	per piece	0.176				
3/5-Digit	per piece	0.151	56,544		9,952	
subtotal			867,669		131,018	
				924,213		140,970
Flats, Pound-Related						
Basic	per piece	0.063				
3/5-Digit	per piece	0.038	30,446		1,918	
subtotal			371,573		14,120	
				402,019		16,038
Basic	per pound	0.550				
3/5-Digit	per pound	0.550	10,822		5,952	
subtotal			116,580		64,119	
				127,402		70,071
			pieces >	8,152,481		1,031,822
Dropship Discounts						
Piece-Rated						
BMC	per piece	(0.019)				
SCF	per piece	(0.024)	1,871,905		(35,566)	
			982,110		(23,571)	
				2,854,015		(59,137)
Pound-Rated						
BMC	per pound	(0.093)				
SCF	per pound	(0.114)	18,987		(1,766)	
			18,869		(2,151)	
				37,856		(3,917)
Revenue from Rates						
			pieces >	**8,152,481**		**$968,768**
Fees						
Address Correction					2,585.3	
Bulk Permit					32,344.8	
Certificate of mailing					0.5	
BPRS Permit					1.3	
						34,932
Total Revenue -- Automation Category						
						$1,003,700
Nonprofit Subclass Total						
Total Postage/Pieces (excluding fees)						
Times Revenue Adjustment Factor				11,463,829	$	1,466,200
Adjusted Revenue						1.00032
Plus Fees						1,466,669
Plus Residual Shape Revenue						48,547
Less Barcode Discount						6,117
Total Revene - Nonprofit				5596.73197		(520)
Revenue per Piece					$	**1,520,813**
					$	0.1327

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

	Unit	Rate ($)	TYAR Volume (000)	Revenue (000)	
Standard Class Nonprofit (con)					
Enhanced Carrier Route Subclass					
Letters					
Basic	per piece	$0.116			
Automated	per piece	0.103	704,005	$81,665	
High Density	per piece	0.093	336,853	34,696	
Saturation	per piece	0.087	52,279	4,862	
subtotal			559,287	48,658	
			1,652,424		$169,881
Nonletters, Piece-Rated					
Basic	per piece	0.116			
High Density	per piece	0.100	752,165	87,251	
Saturation	per piece	0.095	7,306	731	
subtotal			231,116	21,956	
			990,587		109,938
Nonletters, Pound-Rated					
Basic	per piece	0.040			
High Density	per piece	0.024	133,338	5,334	
Saturation	per piece	0.019	1,774	43	
subtotal			66,697	1,267	
			201,809		6,644
Basic	per pound	0.370			
High Density	per pound	0.370	40,041	14,815	
Saturation	per pound	0.370	602	223	
subtotal			19,700	7,289	
			60,343		22,327
		pieces >	2,844,820		$308,790
Dropship Discounts					
Piece-Rated					
BMC		(0.019)			
SCF		(0.024)	641,203	(12,183)	
DDU		(0.029)	1,030,050	(24,721)	
subtotal			455,162	(13,200)	
			2,126,415		(50,104)
Pound-Rated					
BMC		(0.093)			
SCF		(0.114)	10,397	(967)	
DDU		(0.140)	34,103	(3,888)	
subtotal			6,652	(931)	
			51,152		(5,786)
Revenue from Rates					
		pieces >	**2,844,820**		**$252,900**
Fees					
Address Correction				2,086.8	
Bulk Permit				11,286.8	
Certificate of Mailing				0.2	
BPRS Permit				0.5	
					13,374
Nonprofit ECR Subclass Total					
Total Postage/Pieces (excluding fees)					
Times Revenue Adjustment Factor			2,844,820	$	252,900
Adjusted Revenue					1.00039
Plus Fees					252,999
Plus Residual Shape Revenue					13,374
Total Revene - Nonprofit ECR					179
Revenue per Piece				$	**266,552**
				$	0.0937

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

Standard Class-Package Service

		Pieces	Revenues				Pieces	Revenues
Inter-BMC					**Intra-BMC**			
Zone	1 & 2	9,473,165	37,051,914		Zone	Local	2,460,936	7,772,335
	3	8,626,011	38,315,249			1 & 2	19,903,783	70,147,067
	4	11,597,509	63,048,015			3	3,635,762	14,143,033
	5	6,873,020	44,211,338			4	661,946	2,765,897
	6	3,511,509	27,958,510			5	51,572	283,986
	7	2,374,765	19,461,406					
	8	3,855,412	34,822,726					
	Subtotal	46,311,391	264,869,159			Subtotal	26,714,000	95,112,319
Times revenue adjustment			260,998,405		Times revenue adjustment			97,261,203

		Pieces	Revenues				
Parcel Select					**Other Postage Revenue**		
DBMC Zone	1 & 2	203,964,406	549,261,185		Pickup fees		377,783
	3	37,976,103	133,119,241		Alaska Bypass		14,722,412
	4	6,016,045	22,918,308		Parcel Enclosures		107,455
	5	294,294	1,194,229		OMAS		13,484,713
	DDU	38,359,856	52,244,459		Total Other Postage Revenue		28,692,363
	DSCF	4,840,296	9,920,160				
	Subtotal	291,451,000	768,657,581				
Times revenue adjustment			800,024,897		**Total Postage Revenue**		**1,186,976,868**

Fees

Address Correction	267,290
Bulk Permit	40,152
Certificate of Mailing	20,627
Special Handling	43,022
Parcel air lift	10,876
Merchandise return	34,556
Total Fees	416,523

416,523

Adjustments to Revenue

Barcode Discount	(5,564,691)
BMC Presort Discount	(2,228,614)
OBMC Entry Discount	(5,167,932)
Nonmachinable Surcharges	15,212,710
Total Adjustments to Revenue	2,251,473

2,251,473

TOTAL PARCEL POST REVENUE   **1,189,644,864**

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

PACKAGE SERVICE - Bound Printed Matter

Single Piece Rate

Piece Rate   1.59

	Piece Revenue			Pound Revenue		
Zone	Pieces	Revenue		Pounds	Rate	Revenue
1 & 2	14,394,470	$ 22,887,207		34,963,229	0.09	$ 3,146,691
3	2,545,036	$ 4,046,607		7,005,046	0.11	$ 770,555
4	3,194,642	$ 5,079,481		9,101,581	0.13	$ 1,183,205
5	3,322,644	$ 5,283,005		9,619,899	0.17	$ 1,635,383
6	1,675,784	$ 2,664,496		4,561,087	0.21	$ 957,828
7	955,645	$ 1,519,476		2,552,537	0.25	$ 638,134
8	1,901,622	$ 3,023,579		4,933,712	0.34	$ 1,677,462
Total	27,989,844	$ 44,503,851		72,737,092		$ 10,009,259

Bulk Rate Revenue

Piece Rate   0.91

	Piece Revenue			Pound Revenue		
Zone	Pieces	Revenue		Pounds	Rate	Revenue
1 & 2	324,057,052	$ 295,215,975		828,744,183	0.07	$ 57,183,349
3	65,924,113	$ 60,056,867		166,416,984	0.09	$ 14,977,529
4	44,229,650	$ 40,293,211		119,770,304	0.11	$ 13,653,815
5	32,979,881	$ 30,044,672		71,170,884	0.15	$ 10,817,974
6	12,591,171	$ 11,470,557		24,492,208	0.19	$ 4,653,520
7	9,813,322	$ 8,939,937		20,538,956	0.23	$ 4,806,116
8	13,365,967	$ 12,176,396		26,117,126	0.32	$ 8,383,597
Total	502,961,156	$ 458,197,613		1,257,250,644		$ 114,475,899

Summary

Volume		530,951,000
Revenue from rates		
Single-piece catalogs	$	54,513,110
times base year revenue adjustments	$	56,214,930
Bulk-rate catalogs	$	572,673,512
times base year revenue adjustments	$	563,515,051
Total Revenue from Rates	$	619,729,981

Revenue from Fees			**Adjustments to Revenue**	
Address Correction	$	590,114	Carrier Route	$ (11,034,087)
Bulk Permit	$	57,995	DBMC	$ (33,797,502)
Certificate of Mailing	$	29,793	DSCF	$ (7,309,880)
Special Handling	$	17	DDU	$ (4,283,278)
Merchandise Return	$	49,911	Prebarcoding	$ (3,319,140)
Total Revenue from fees	$	727,830	Total Adjustmen	$ (59,743,887)

TOTAL BOUND PRINTED MATTER REVENUE   **$ 560,713,924**

COMMISSION RECOMMENDED RATES
APPLIED TO TEST YEAR VOLUMES

Package Service - Media Mail and Library Rate

Revenue From Rates

	Media Mail	Library Rate	Combined
Single Piece			
First Pound			
Barcoded	$ 12,547,992	$ 173,579	$ 12,721,570
Non-Barcoded	$ 177,693,085	$ 34,116,106	$ 211,809,191
Pounds 2-7	$ 62,416,995	$ 12,326,512	$ 74,743,507
Pounds 8-70	$ 9,961,419	$ 1,932,123	$ 11,893,543
Total Non-Presorted	$ 262,619,491	$ 48,548,319	$ 311,167,810
times base year revenue adjustments	$ 263,754,626	$ 48,752,357	$ 312,506,983
Presorted			
First Pound--Presort Level A (5-Digit)	$ 313,845	$ 855	$ 314,700
First Pound--Presort Level B (BMC)			
Barcoded	$ 4,107,961	$ 6,099	$ 4,114,060
Non-Barcoded	$ 51,825,342	$ 595,507	$ 52,420,849
Pounds 2-7	$ 16,796,379	$ 402,287	$ 17,198,666
Pounds 8-70	$ 292,558	$ 51,195	$ 343,752
Total Presorted	$ 73,336,084	$ 1,055,943	$ 74,392,027
times base year revenue adjustments	$ 68,972,239	$ 997,794	$ 69,970,033

Revenue from fees	**Media Mail**	**Library Rate**	**Combined**
Address Correction	$ 113,700	$ 46,884	$ 160,584
Bulk Permit	$ 208,191	$ -	$ 208,191
Certificate of Mailing	$ 11,395	$ 1,594	$ 12,989
Special Handling	$ 7,470	$ 3,166	$ 10,636
Merchandise Return	$ 19,090	$ 2,670	$ 21,760
Total Revenue from fees	$ 359,846	$ 54,314	$ 414,160
Total Revenue	**$ 333,086,711**	**$ 49,804,465**	**$ 382,891,176**

Commission Recommended Fees
Applied to Test Year Transactions

SPECIAL SERVICES

A. Address Correction Fees

		Automated Transactions (000)	Fee	Manual Transactions (000)	Fee	Revenues (000)
First Class						
Regular:	letter	12,983	$ 0.20	35,392	$ 0.60	$ 23,832
	letter presort	609	0.20	1,660	0.60	1,118
	post card	698	0.20	1,902	0.60	1,281
	post card presort	99	0.20	269	0.60	181
Auto:	auto letter	11,020	0.20	30,042	0.60	20,229
	auto post card	574	0.20	1,566	0.60	1,054
	Total First-Class	25,982		70,831		47,695
	Priority	0	0.20	168	0.60	101
	Periodicals					
	In County	5,454	0.20	1,223	0.60	1,825
	Regular Rate	45,636	0.20	10,233	0.60	15,267
	Non-profit	12,792	0.20	2,868	0.60	4,279
	Classroom	343	0.20	77	0.60	115
	Total Periodicals	64,224		14,401		21,486
	Standard Mail A					
Bulk:	Presort	14,569	0.20	47	0.60	2,942
	Automation	78,935	0.20	253	0.60	15,939
	ECR	63,716	0.20	204	0.60	12,866
	Total Bulk Std. A	157,219		503		31,746
	Standard Mail B					
	Parcel Post	1,308	0.20	9	0.60	267
	BPM	2,938	0.20	4	0.60	590
	Special Rate	562	0.20	2	0.60	114
	Library	228	0.20	2	0.60	47
	Total Std. B	5,035		18		1,018
Grand Total Address Correction		252,461		85,921		$ 102,045
Grand Total Trans. (Auto & Manual, in thousands**)**				338,382		

Commission Recommended Fees
Applied to Test Year Transactions

B. Bulk/Presort Mailing Fees

	Transactions	Fee	Revenues
First Class			
Regular: letter presort	2,570	$ 125.00	$ 321,243
post card presort	417	125.00	52,074
Auto: auto letter	46,502	125.00	5,812,741
auto post card	2,424	125.00	302,959
Total First Class	**51,912**		**6,489,017**
Standard (A)			
Regular: Presort	5,881	125.00	735,083
Automation	43,700	125.00	5,462,504
ECR	39,792	125.00	4,973,975
Total Reg. Bulk	89,373		11,171,563
Nonprofit: NP Presort	105,102	125.00	13,137,690
NP Automation	258,758	125.00	32,344,762
NP ECR	90,294	125.00	11,286,751
Total NP Bulk	454,154		56,769,203
Total Std. (A)	**543,526**		**67,940,766**
Standard (B)			
Special Rate	1,666	125.00	208,191
Destination Entry			
Parcel Post DBMC	321	125.00	40,152
Bound Printed Matter	464	125.00	57,995
Total Destination Entry	785		98,147
Total Std. (B)	**2,451**		**306,338**
Merchandise Return			
1st class	434	125.00	54,312
Priority	331	125.00	41,349
Std. (A)	-	125.00	-
Std. (B)	850	125.00	106,227
Total Merchandise Return	**1,615**		**201,889**
Bulk Parcel Return Service	114	125.00	14,257
Total Bulk/Presort Mailing Fees	**599,618**		**74,952,266**

Commission Recommended Fees
Applied to Test Year Transactions

C. Business Reply Fees

	Volume (000)	Fee	Revenues (000)
Advance Deposit			
QBRM with quarterly fee	150,633	$ 0.01	$ 1,506
QBRM without quarterly fee	301,266	0.05	15,063
Total QBRM	451,898		16,570
Non-QBRM Advance Deposit	441,790	0.10	44,179
Nonletter-Size	8,229	0.01	82
Priority	3,492	0.10	349
Subtotal - Per Piece	1,357,307		$ 61,180
Accounting Fee	115	375	$ 43,185
Nonletter-Size Monthly Fee	0	600	30
QBRM Quarterly Fee	1	1,800	6,025
Permit Fee	99	125	12,343
Subtotal - Fees	215		61,582
Advance Total	1,357,522		$ 122,763
Nonadvance Deposit			
1st Class	100,507	0.35	$ 35,178
Priority	907	0.35	318
Nonadvance Total	101,415		$ 35,495
Grand Total	**1,458,937**		$ **158,258**

Commission Recommended Fees
Applied to Test Year Transactions

D. Certificate of Mailing Fees
(all distributed to subclasses)

TRANSACTIONS		Basic	Firm book	First 1000	Additional 1000	Subclass Total	Class Total
First-Class Regular:	letter	3,046,799	8,490,926	-	-	11,537,725	
	letter presort	-	-	1,178	12,958	14,136	
	post card	163,709	456,229	-	-	619,937	
	post card presort	-	-	191	2,101	2,291	
First-Class Auto:	auto letter	-	-	21,316	234,468	255,784	
	auto post card	-	-	1,111	12,220	13,331	12,443,205
Priority		123,446	-	430	4,736	128,612	128,612
Std (A) Regular:	Presort	365	-	6	62	432	
	Automation	2,710	-	42	459	3,211	
	ECR	2,468	-	38	418	2,924	
Std (A) Nonprofit:	Presort	248	-	4	42	294	
	Automation	611	-	9	104	724	
	ECR	213	-	3	36	253	7,839
Standard B:	Parcels	19,932	22,711	-	-	42,643	
	Bound Printed Matter	28,789	32,803	-	-	61,593	
	Special Rate	11,011	12,546	-	-	23,558	
	Library Rate	1,540	1,755	-	-	3,295	131,089
International Mail		21,545	-	762	8,376	30,684	30,684
Totals		3,423,388	9,016,970	25,090	275,980	12,741,428	**12,741,428**

REVENUES		Basic	Firm book	First 1000	Additional 1000	Subclass Total	Class Total
	Fee >>	$0.75	$0.25	$3.50	$0.40		
First-Class Regular:	letter	$2,285,100	$2,122,731	$0	$0	$4,407,831	
	letter presort	-	-	4,123	5,183	9,306	
	post card	122,781	114,057	-	-	236,839	
	post card presort	-	-	668	840	1,509	
First-Class Auto:	auto letter	-	-	74,605	93,787	168,392	
	auto post card	-	-	3,888	4,888	8,777	$4,832,653
Priority		92,585	-	1,506	1,894	95,985	95,985
Std (A) Regular:	Standard Presort	274	-	20	25	318	
	Automation	2,033	-	146	184	2,363	
	ECR	1,851	-	133	167	2,151	
Std (A) Nonprofit:	Standard Presort	186	-	13	17	216	
	Automation	459	-	33	41	533	
	ECR	160	-	12	14	186	5,767
Standard B:	Parcel Post	14,949	5,678	-	-	20,627	
	Bound Printed Matter	21,592	8,201	-	-	29,793	
	Special Rate	8,258	3,137	-	-	11,395	
	Library Rate	1,155	439	-	-	1,594	63,409
International Mail		16,159	-	2,667	3,351	22,176	22,176
Totals		$2,567,541	$2,254,243	$87,814	$110,392	$5,019,990	**$5,019,990**

Commission Recommended Fees
Applied to Test Year Transactions

E. Certified Mail Fees	Transactions (000)	Fee	Revenues (000)
Basic Fee	279,926	$ 1.90	$ 531,859.4
Additional Services			
Return Receipts			328,430.4
Restricted Delivery			8,180.6
Total Additional Services			$ 336,611.0

F. Collect on Delivery Fees

Fee charge for Collectable amount or Insurance coverage up to	Value	Transactions (000)	Fee	Revenues (000)
	$ 50	1,513	$ 4.50	$ 6,806
	100	926	5.50	5,094
	200	635	6.50	4,125
	300	201	7.50	1,510
	400	118	8.50	1,002
	500	68	9.50	648
	600	71	10.50	747
	700	0	11.50	-
	800	0	12.50	-
	900	0	13.50	-
	1000	0	14.50	-
Total before Additional Services		3,532		19,933

Additional Services -- only Restricted Delivery from other subservices

Registered COD	12	4.00	48
Notice of Non-Delivery	0	3.00	-
Alteration of COD	0	3.00	-
Restricted Delivery	0	3.20	-
Total Collect on Delivery	**3,544**		**$ 19,981**

Commission Recommended Fees
Applied to Test Year Transactions

G. Insurance

	Value	Transactions	Fee	Revenues
Domestic Liability up to	$ 50	21,185,095	$ 1.10	$ 23,303,604
	100	12,260,796	2.00	24,521,591
	200	5,734,499	3.00	17,203,498
	300	1,996,229	4.00	7,984,917
	400	835,866	5.00	4,179,328
	500	792,438	6.00	4,754,631
	600	276,256	7.00	1,933,791
	700	139,245	8.00	1,113,956
	800	166,645	9.00	1,499,802
	900	40,145	10.00	401,454
	1,000	165,180	11.00	1,816,982
	1,100	10,353	12.00	124,236
	1,200	27,671	13.00	359,720
	1,300	10,183	14.00	142,557
	1,400	6,397	15.00	95,952
	1,500	57,672	16.00	922,759
	1,600	4,484	17.00	76,221
	1,700	3,960	18.00	71,274
	1,800	6,170	19.00	117,236
	1,900	3,153	20.00	63,060
	2,000	34,110	21.00	716,310
	2,100	1,112	22.00	24,460
	2,200	2,421	23.00	55,677
	2,300	2,531	24.00	60,733
	2,400	628	25.00	15,692
	2,500	10,984	26.00	285,587
	2,600	1,260	27.00	34,011
	2,700	775	28.00	21,690
	2,800	3,826	29.00	110,943
	2,900	1,325	30.00	39,761
	3,000	10,682	31.00	331,127
	3,100	188	32.00	6,031
	3,200	236	33.00	7,789
	3,300	207	34.00	7,055
	3,400	1,744	35.00	61,033
	3,500	1,697	36.00	61,096
	3,600	0	37.00	-
	3,700	0	38.00	-
	3,800	581	39.00	22,658
	3,900	380	40.00	15,182
	4,000	1,990	41.00	81,598
	4,100	433	42.00	18,192
	4,200	416	43.00	17,882
	4,400	486	44.00	21,379
	4,300	0	45.00	-
	4,500	425	46.00	19,567
	4,600	0	47.00	-
	4,700	887	48.00	42,577
	4,800	0	49.00	-
	4,900	268	50.00	13,401
	5,000	12,820	51.00	653,797
International				
Canada		207,027	$ 2.48	$ 514,180
Other		761,127	4.28	3,257,833
Total Insurance		**44,783,000**		**$ 97,203,808**

Additional Services		
Return Receipts		2,077
Restricted Delivery		37
Total additional services	$	2,114

Commission Recommended Fees
Applied to Test Year Transactions

H. Merchandise Return	Transactions	Fee	Revenues
Accounting Fee	1,615	$ 375.00	605,666
Transactions			
1st class	2,220,774	-	-
Priority	1,690,706	-	-
Std. (A)	0	-	-
Std. (B)	4,343,511	-	-
Total Transactions	8,254,992		-
Total Merchandise Return		**$**	**605,666**

I. Money Orders

	Value to ($)	Transactions (000)	Fee ($)	Revenues (000)
APO-FPO	700	729	$ 0.25	$ 182
Domestic	700	237,324	0.75	177,993
International	700	1,699	2.95	5,012
Inquiry fees		896	2.75	2,464
Subtotal		239,753		185,652
Money Order Float Interest				50,154
Outstanding MO taken into revenue				45,545
MO Comm redeem international for issue				828
Total Money Orders		**239,753**	**$**	**282,180**

J. On-Site Meter Settings	Transactions (000)	Fee	Revenues (000)
Meter service (per employee)	233	$ 31.00	$ 7,208
Meter reset and/or examined	32	4.00	127
Check In/Out Service (per meter)	83	4.00	331
Total On-Site Meter Settings	**347**	**$**	**7,666**

Commission Recommended Fees
Applied to Test Year Transactions

K. Permit Imprint	Transactions	Fee	Revenue
	62,231	$ 125.00	7,778,929

L. Parcel Air Lift

	Transactions (000)	Fee	Revenues (000)
Fees in addition to parcel postage			
Up to 2 pounds	2.0	$ 0.40	$ 0.8
Over 2 up to 3 pounds	1.9	0.75	1.4
Over 3 up to 4 pounds	0.5	1.15	0.6
Over 4 pounds	5.2	1.55	8.1
Total Parcel Air Lift	**9.6**		**$ 10.9**

Commission Recommended Fees
Applied to Test Year Transactions

M. Post Office Boxes and Caller Service

		Volume	Annual Fee	Revenues
Group B2				
Box Size:	1	86,723	$60.00	$ 5,203,354
	2	12,941	$90.00	1,164,665
	3	5,932	$170.00	1,008,454
	4	754	$340.00	256,270
	5	97	$600.00	58,221
		106,446		**7,690,964**
Group C3				
Box Size:	1	1,524,006	$55.00	83,820,353
	2	624,802	$80.00	49,984,126
	3	202,876	$150.00	30,431,461
	4	43,441	$300.00	13,032,395
	5	9,645	$500.00	4,822,479
		2,404,771		**182,090,814**
Group C4				
Box Size:	1	1,467,477	$45.00	66,036,485
	2	621,267	$65.00	40,382,333
	3	202,329	$120.00	24,279,512
	4	43,280	$250.00	10,819,986
	5	9,542	$425.00	4,055,506
		2,343,896		**145,573,823**
Group C5				
Box Size:	1	3,102,527	$38.00	117,896,032
	2	1,347,760	$55.00	74,126,811
	3	437,622	$100.00	43,762,227
	4	97,671	$175.00	17,092,388
	5	21,674	$300.00	6,502,172
		5,007,254		**259,379,630**
Group D6				
Box Size:	1	3,740,173	$20.00	74,803,468
	2	1,600,336	$32.00	51,210,748
	3	439,398	$50.00	21,969,924
	4	31,833	$100.00	3,183,295
	5	1,892	$180.00	340,490
		5,813,632		**151,507,925**
Group D7				
Box Size:	1	240,692	$17.00	4,091,770
	2	104,417	$26.00	2,714,834
	3	28,058	$45.00	1,262,617
	4	2,097	$80.00	167,731
	5	128	$130.00	16,688
		375,392		**8,253,642**
Group E				
Box Size:	1-5	1,437,690	$0.00	-
		188,869	$0.00	-
		18,394	$0.00	-
		-	$0.00	-
		-	$0.00	-
		1,644,953		**-**
Unadjusted Revenue		**17,696,345**		**754,496,798**
Revenue Adjustment Factor				0.9682
Box Revenue		**17,696,345**		**$ 730,503,800**
Caller Service				
(except Group E)		87,339	$750.00	65,504,440
Reserved Number		158,969	$30.00	4,769,076
Grand Total		**17,942,653**		**$ 800,777,316**

Commission Recommended Fees
Applied to Test Year Transaction

N. Registered Mail

Domestic Value up to	------ Covered by USPS Insurance ------			- not Covered by USPS Insurance --		
	Fees	Transactions (000)	Revenues (000)	Fees	Transactions (000)	Revenues (000)
$0	N/A	-	$ -	$ 7.25	2,308	$ 16,734
100	$ 7.50	670	5,026	N/A		
500	8.25	1,148	9,474	N/A		
1,000	9.00	707	6,362	N/A		
2,000	9.75	637	6,207	N/A		
3,000	10.50	344	3,607	N/A		
4,000	11.25	212	2,380	N/A		
5,000	12.00	224	2,688	N/A		
6,000	12.75	102	1,302	N/A		
7,000	13.50	96	1,298	N/A		
8,000	14.25	67	957	N/A		
9,000	15.00	44	661	N/A		
10,000	15.75	124	1,955	N/A		
11,000	16.50	43	705	N/A		
12,000	17.25	30	517	N/A		
13,000	18.00	42	761	N/A		
14,000	18.75	23	435	N/A		
15,000	19.50	39	764	N/A		
16,000	20.25	13	267	N/A		
17,000	21.00	17	365	N/A		
18,000	21.75	14	308	N/A		
19,000	22.50	11	258	N/A		
20,000	23.25	42	966	N/A		
21,000	24.00	19	450	N/A		
22,000	24.75	10	259	N/A		
23,000	25.50	11	290	N/A		
24,000	26.25	7	194	N/A		
25,000	27.00	101	2,736	N/A		
Subtotals		4,799	51,195		2,308	16,734

International

	Fees	Transactions (000)	Revenues (000)		Transactions (000)	Revenues (000)
$ 100	7.50	3,752	28,143			
500	8.25	13	105			
1,000	9.00	6	58			
Totals		8,571	79,501		2,308	16,734

Combined Total before Handling Charges					10,879	96,236
Handling Charges $ 0.75		87	$ 65			
Combined Total for Registered Mail					**10,966**	**96,300.68**

Additional Services	
Return Receipts	3,182
Restricted Delivery	73
Total Additional Services	3,255

Commission Recommended Fees
Applied to Test Year Transaction

O. Restricted Delivery

	Base Year		TYAR	
	Transactions	Subclass Vol (000)	Subclass Vol (000)	Transactions
Registry	27,757	13,274	10,966	22,930
C.O.D.	0	3,878	3,544	0
Insurance	13,457	51,799	44,783	11,634
Certified	2,579,746	282,479	279,926	2,556,432
Total	2,620,960			2,590,996

Source: T-40; WP-3

P. Return Receipt Fees

	Transactions (000)	Fee	Revenues (000)
1. Requested at time of mailing			
Registry	2,103	$ 1.50	$ 3,154.3
Certified Mail	217,097	1.50	325,644.8
Insured mail	1,385	1.50	2,076.9
Merchandise	1,633	2.35	3,838.4
2. Requested after mailing			
Registry	7.80	$ 3.50	27.3
Certified Mail	796	3.50	2,785.6
Insured mail	-	3.50	-
Total Return Receipt Fees			
Registry	2,111		3,181.6
Certified Mail	217,892		328,430.4
Insured mail	1,385		2,076.9
Merchandise	1,633		3,838.4
Total Return Receipt	223,021	$	337,527.2

Commission Recommended Fees
Applied to Test Year Transaction

Q. Periodicals Application Fees

	Transactions	Fee	Revenues
Within County			
Original Entry	161	350.00	$ 56,213
Reentry	66	40.00	2,659
Additional Entry	9	50.00	466
News Agents	0	40.00	1
Total Within County	236		$ 59,339
Regular Rate Publications			
Original Entry	1,344	350.00	470,318
Reentry	556	40.00	22,244
Additional Entry	78	50.00	3,902
News Agents	0	40.00	9
Total Regular Rate	1,978		$ 496,474
Nonprofit Publications			
Original Entry	377	350.00	131,829
Reentry	156	40.00	6,235
Additional Entry	22	50.00	1,094
News Agents	0	40.00	3
Total Nonprofit	554		$ 139,161
Classroom			
Original Entry	10	350.00	3,535
Reentry	4	40.00	167
Additional Entry	1	50.00	29
News Agents	0	40.00	0
Total Classroom	15		$ 3,731
Summary			
Original Entry	1,891	350.00	661,895
Reentry	783	40.00	31,305
Additional Entry	110	50.00	5,492
News Agents	0	40.00	13
Total Periodicals Application Fees	**2,784**		**$ 698,705**

Commission Recommended Fees
Applied to Test Year Transaction

R. Special Handling Fees

		Transactions	Fee	Revenue
Standard A				
Single piece	up to 10 lbs	0	$ -	$ -
Standard B				
Parcel Post	up to 10 lbs	4,012	5.40	21,665
	> 10 lbs	2,848	7.50	21,357
Total Parcel Post		6,860		$ 43,022
Special Rate	up to 10 lbs	1,191	5.40	6,434
	> 10 lbs	138	7.50	1,036
Total Special rate		1,330		$ 7,470
Bound Printed Matter	up to 10 lbs	3	5.40	17
	> 10 lbs	0	7.50	0
Total BPM		3		$ 17
Library Rate	up to 10 lbs	354	5.40	1,911
	> 10 lbs	167	7.50	1,255
Total Library Rate		521		$ 3,166
International Mail	up to 10 lbs	0	5.40	0
	> 10 lbs	0	7.50	0
Total International		0		$ -
Total Special Handling Fees		**8,714**		**$ 53,675**

Commission Recommended Fees
Applied to Test Year Transaction

S. Stamped Envelopes

	Size 6-3/4		Size 10		
	Transactions	Fee	Transactions	Fee	Revenues
Plain Envelopes:					
Single	7,948,559 $	0.08	38,044,001 $	0.08	$ 3,679,405
Note: Below are boxes of 500, except household					
Regular, Window, Precancelled	39,175	12.00	249,073	14.00	3,957,128
Regular, Precancelled Window					
Total Plain Envelope transactions (in 500's)			380,234		
Total Plain Envelope revenues					7,636,533
Printed Envelopes:					
Regular, Window, Precancelled	32,626	17.00	379,979	20.00	8,154,218
Regular, Precancelled Window					
Household Regular,	11,797	3.50	59,819	3.50	250,655
Household Window (Box of 50)					
Total Printed Envelope transactions (in 500's)			419,766		
Total Printed Envelope Revenues					8,404,873
Total Stamped Envelope transactions (in 500's)			800,000		
Total Stamped Envelope sales			**400,000,000**		
Total Envelope Revenues					**16,041,406**

	Transactions (000)	Fee ($)	Revenues (000)
T. Zip Coding of Mail Lists			
(per 1000 addresses)	0.3	73.00	24.0
U. Correction of Mailing Lists			
(per change of address)	1,486.1	0.25	371.5
V. Address Changes for Election Boards, etc.			
(per change of address)	1,419.9	0.23	326.6
W. Carrier Sequencing of Address Cards	N/A	0.25	N/A

Commission Recommended Fees
Applied to Test Year Transaction

X. Delivery Confirmation

	Volume	Fee	Revenue
Priority Mail Manual	52,221,268	0.40 $	20,888,507
Standard Mail (A) Electronic	-	0.12	-
Standard Mail (B) Manual	2,751,587	0.50	1,375,794
Standard Mail (B) Electronic	420,726	0.12	50,487
Total Delivery Confirmation	**55,393,581**		**$ 22,314,788**

Y. Stamped Cards

Transactions (000)	Fee ($)	Revenues (000)
430,277	0.02 $	8,606

Z. Bulk Parcel Return Service

	Transactions	Fee ($)	Revenues
Per Piece	1,077,931	1.62 $	1,746,248
Accounting Fee	114	375.00	42,771
Total Bulk Parcel Return Service		$	**1,789,019**

AA. Signature Confirmation

	Volume (000)	Fee	Revenue (000)
Priority Mail Electronic	15,172 $	1.25 $	18,965
Priority Mail Manual	6,487	1.75	11,352
Standard Mail (B) Electronic	52	1.25	65
Standard Mail (B) Manual	342	1.75	599
Total Signature Confirmation	**22,053**		**$ 30,981**

Schedule 3

Comparison of Mark-Ups

	R2000-1 PRC Recommended Rates	R97-1	R94-1	R90-1	R87-1	R84-1	R80-1	R77-1	R76-1	R74-1	R71-1
All Mail & Special Services	58.7	55.3	56.8	50.0	48.0	52.0	27.0	24.0	52.0	69.0	85.0
First-Class Mail:											
Letters	78.8	72.4	74.5	61.7	58.0	59.0	25.0	24.0	63.0	87.0	96.0
Cards	33.0	50.5	36.7	45.9	64.0	93.0	33.0	49.0	104.0	129.0	173.0
Priority Mail	61.9	66.1	97.2	85.4	76.0	104.0	58.0	66.0	121.0	132.0	213.0
Express Mail	51.3	13.6	18.9	28.6	69.0	139.0	123.0	422.0	--	--	--
Mailgrams	33.3	725.5	1.6	2.8	11.0	81.0	193.0	137.0	--	--	--
Periodicals:											
Within County	0.3	0.6	2.7	1.5	5.0	1.0	0.0	0.0	0.0	1.0	0.0
Regular Rate	0.9	1.0	16.3	23.2	25.0	24.0	21.0	0.0	19.0	17.0	29.0
Nonprofit 1/	-3.9	0.7	4.1	1.1	5.0	3.0	0.0	0.0	0.0	0.0	0.0
Classroom	1.7	-16.3	6.8	--	5.0	0.0	0.0	0.0	0.0	0.0	0.0
Outside County 2/	0.1	--	--	--	--	--	--	--	--	--	--
Controlled Circulation	--	--	--	--	--	--	--	33.0	49.0	82.0	162.0
Standard Mail:											
Single Piece	--	--	4.5	20.1	26.0	15.0	0.0	4.0	4.0	4.0	75.0
Regular	37.4	34.6	23.4	--	--	--	--	--	--	--	--
Enhanced Carrier Route (ECR)	99.4	103.0	109.4	--	--	--	--	--	--	--	--
Bulk Rate Regular	54.9	52.5	50.9	47.0	41.0	46.0	34.0	20.0	55.0	82.0	104.0
Nonprofit	7.4	13.7	8.6	--	--	--	--	--	--	--	--
Nonprofit ECR	36.1	43.0	1.7	--	--	--	--	--	--	--	--
Bulk Rate Nonprofit	10.9	16.8	8.6	0.9	8.0	0.0	0.0	0.0	0.0	0.0	0.0
Package Services:											
Parcel Post	14.9	8.0	7.4	11.5	12.0	16.0	6.0	3.0	21.0	41.0	56.0
Bound Printed Matter	13.9	35.6	36.6	44.5	49.0	74.0	39.0	25.0	63.0	90.0	169.0
Media Mail	1.9	5.6	4.6	4.8	6.0	12.0	6.0	2.0	35.0	38.0	54.0
Library Rate	-4.5	-17.9	0.8	0.0	1.0	2.0	0.0	0.0	0.0	1.0	--
Government Mail 3/	--	--	--	--	120.0	136.0	132.0	116.0	206.0	229.0	212.0
Free-for-the-Blind Mail	--	--	--	--	--	--	--	--	--	--	--
International Mail	6.3	25.3	21.8	48.1	23.0	48.0	16.0	29.0	57.0	62.0	103.0
Special Services	63.1	43.5	34.7	28.2	9.0	30.0	21.0	18.0	2.0	8.0	75.0

1/ Nonprofit and Classroom were combined in R90-1
2/ Regular Rate, Nonprofit, and Classroom are now rate categories of the new Outside County subclass
3/ Since R90-1, Government Mail has been distributed to all classes

Comparison of Mark-Up Indices

	R2000-1 PRC Recommended Rates	R97-1	R94-1	R90-1	R87-1	R84-1	R80-1	R77-1	R76-1	R74-1	R71-1
All Mail & Special Services	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**
First-Class Mail:											
Letters	1.342	1.308	1.311	1.235	1.200	1.135	0.926	1.000	1.210	1.260	1.130
Cards	0.561	0.913	0.645	0.919	1.330	1.788	1.222	2.040	2.000	1.870	2.040
Priority Mail	1.053	1.195	1.710	1.708	1.580	2.000	2.148	2.750	2.330	1.910	2.510
Express Mail	0.873	0.245	0.332	0.572	1.420	2.673	4.556	17.580	--	--	--
Mailgrams	0.568	13.114	0.028	0.056	0.230	1.558	10.852	5.710	--	--	--
Periodicals:											
Within County	0.005	0.010	0.048	0.031	0.110	--	--	--	--	0.010	--
Regular Rate	0.015	0.017	0.286	0.465	0.510	0.462	0.778	0.000	0.370	0.250	0.340
Nonprofit 1/	-0.066	0.012	0.071	0.022	0.100	--	--	--	--	--	--
Classroom	0.029	-0.294	0.119	--	0.100	--	--	--	--	--	--
Outside County 2/	**0.002**	--	--	--	--	--	--	--	--	--	--
Controlled Circulation	--	--	--	--	--	--	--	1.380	0.940	1.190	1.480
Standard Mail:											
Single Piece	--	**--**	**0.078**	**0.402**	**0.540**	**0.288**	--	**0.170**	**0.080**	**0.060**	**0.880**
Regular	0.637	0.626	0.412	--	--	--	--	--	--	--	--
Enhanced Carrier Route (ECR)	1.692	1.862	1.926	--	--	--	--	--	--	--	--
Bulk Rate Regular	**0.934**	**0.949**	**0.899**	**0.941**	**0.840**	**0.885**	**1.259**	**0.830**	**1.060**	**1.190**	**1.220**
Nonprofit	0.126	0.248	0.030	--	--	--	--	--	--	--	--
Nonprofit ECR	0.615	0.778	0.948	--	--	--	--	--	--	--	--
Bulk Rate Nonprofit	**0.185**	**0.303**	**0.152**	**0.018**	**0.170**	--	--	--	--	--	--
Package Services:											
Parcel Post	0.253	0.144	0.131	0.230	0.240	0.308	0.222	0.130	0.400	0.590	0.660
Bound Printed Matter	0.237	0.643	0.644	0.890	1.020	1.423	1.444	1.040	1.210	1.300	1.990
Media Mail	0.032	0.101	0.080	0.097	0.110	0.231	0.222	0.080	0.670	0.550	0.640
Library Rate	-0.076	-0.324	0.013	0.001	0.030	--	--	--	--	0.010	--
Government Mail 3/	--	--	--	--	2.480	2.615	4.889	4.830	3.960	3.320	2.490
Free-for-the-Blind Mail	--	--	--	--	--	--	--	--	--	--	--
International Mail	0.106	0.457	0.383	0.962	0.480	0.923	0.593	1.210	1.100	0.900	1.210
Special Services	1.074	0.787	0.611	0.564	0.200	0.577	0.778	0.750	0.040	0.120	0.880

1/ Nonprofit and Classroom were combined in R90-1
2/ Regular Rate, Nonprofit, and Classroom are now rate categories of the new Outside County subclass
3/ Since R90-1, Government Mail has been distributed to all classes

CONSIDERATIONS FOR THE FUTURE CONDUCT
OF RECURRING SAMPLE SURVEYS AND OBSERVATIONAL STUDIES

For these proceedings the Postal Service's presentation of RPW Parcel Post estimates included discrepancies that occasioned protracted discussions, inquiries, and analyses in an effort to identify reasons for the divergence of the estimates. *See* Chapter V.E.1.b. The Postal Service subsequently provided some plausible, if not completely definitive, explanations for the discrepancies. In responding to many of UPS's criticisms of the RPW Parcel Post estimates, the Postal Service's rebuttal failed, as a general matter, to provide quantification of the extent of the potential problem or characterizations of a pattern. *See, e.g.,* Tr. 43/18800 *et seq.* However, the Postal Service also seemed unable to provide statistics that would unquestionably refute selected claims of UPS. A relevant question is how can the likelihood of such discrepancies be reduced and the overall efficiency of the proceedings be enhanced as a result.

The Postal Service has attributed the disparity between the original RPW Parcel Post estimates and the subsequent Permit-based estimates to data collection error, which is measurement error, a principal component of nonsampling error. Data collection error was also cited in connection with a sharp increase in IOCS attributable costs reported for Media Mail (formerly Special Standard). The Data Quality Study issued in April, 1999 (Technical Report #2 - Statistical Analysis of Data Quality Issues) provides a sketch of potential nonsampling errors in the on-going data collection systems. A more thorough investigation of this form of survey error is warranted. The Commission recommends the initiation of a comprehensive investigation of nonsampling errors associated with the data collection systems. The investigation should consist of a detailed study of the sources of error and methods of modeling and measuring nonsampling error, and estimating their individual and interactive effects on survey estimates.

The primary problems encountered by the Postal Service, in providing definitive and timely explanations of the discrepancies in the RPW Parcel Post estimates, are seemingly associated with a combination of the following:

1. an absence of quality measures that would permit an assessment of or the quantification of the effects of various survey errors on the estimates;

2. inconsistencies between expressed survey concepts and definitions and data collectors' perceptions of those concepts and definitions; and

3. difficulty in imposing controls and effecting evaluations of certain aspects of the data collection and processing procedures.

These limitations are deviations from desirable survey practices, hamper attempts to validate the results of studies, and engender questions regarding the quality of the derived estimates.

In an effort to minimize the recurrence of anomalies in survey estimates that are difficult to plausibly explain or defend statistically, the Commission recommends that the Postal Service reassess its essential criteria for the conduct of recurring sample surveys and observational studies. For all recurring sample surveys and observational studies offered in evidence or in support of evidence, the Commission recommends the adherence to the Rules of Practice and Procedure designated for market research, Rule 31(k)(2)(i), 39 C.F.R. § 3001.31(k)(2)(i).   Particular attention should be given to the presentation of response, coverage and editing rates, and any other potential sources of error associated with the survey's quality assurance, and to a discussion of data comparability over time and with other data sources. In addition, it is recommended that the Service ensure that:

a. through uniform regular training and evaluation of survey personnel, the conceptual framework and definitions applied to data collection are consistent with the initial concepts and definitions expressed in survey objectives;

b. survey or observational study profiles are developed, which identify major features of the study that could be principal sources of error;

c. when possible, survey errors (sampling and nonsampling) identified through the error profiles are modeled and assessed as a part of the survey process;

d. quality assurance procedures are implemented for the sampling, data collection, processing and estimation stages of sample surveys;

e. procedural changes in sample surveys are accompanied by empirical and/or theoretical support of hypotheses relating to the effects of such changes on the estimates of primary survey variables; and

f. unusually large changes in survey estimates from one reporting period to the next or large disparity in corresponding estimates from different sources can be ascribed to "real change" or to statistically defensible changes or differences in estimation methodology and survey operations.

Table I-1
Before RatesForecast Compared with Actual Volumes
2000 PQ 1 to 2000 PQ 4 (Pieces in Thousands)

Mail Class	2000 PQ 1			2000 PQ 2		
	Forecast	Actual	Percent Difference	Forecast	Actual	Percent Difference
First-Class Mail:						
Single-Piece Letters	12,298,293	12,059,251	-1.9%	13,333,700	13,190,565	-1.1%
Workshared Letters	10,175,260	10,375,698	2.0%	10,547,265	10,704,577	1.5%
Total Letters	22,473,553	22,434,949	-0.2%	23,880,965	23,895,142	0.1%
Single-Piece Cards	707,702	691,290	-2.3%	639,479	576,811	-9.8%
Workshared Cards	624,664	634,284	1.5%	575,243	619,388	7.7%
Total Cards	1,332,366	1,325,574	-0.5%	1,214,723	1,196,199	-1.5%
Total First Class	23,805,918	23,760,523	-0.2%	25,095,688	25,091,341	0.0%
Priority Mail	271,724	282,715	4.0%	286,588	317,214	10.7%
Express Mail	15,028	15,357	2.2%	16,609	16,599	-0.1%
Mailgrams	916	858	-6.4%	1,117	702	-37.1%
Periodicals:						
Within County	204,033	204,031	0.0%	209,614	198,079	-5.5%
Regular Rate	1,650,840	1,606,264	-2.7%	1,628,054	1,682,716	3.4%
Nonprofit	513,883	486,583	-5.3%	492,361	517,888	5.2%
Classroom	12,558	14,131	12.5%	14,976	15,425	3.0%
Total Periodicals	2,381,314	2,311,009	-3.0%	2,345,004	2,414,108	2.9%
Standard Mail (A):						
Single Piece						
Regular - Presort	1,724,349	1,518,152	-12.0%	1,274,186	1,335,933	4.8%
- Automation	8,411,445	8,821,857	4.9%	7,669,026	7,903,000	3.1%
Total Regular	10,135,793	10,340,009	2.0%	8,943,212	9,238,933	3.3%
Regular ECR	8,634,962	8,642,413	0.1%	7,160,683	7,019,729	-2.0%
Total Bulk Rate Regular	18,770,756	18,982,422	1.1%	16,103,895	16,258,662	1.0%
Nonprofit - Presort	841,163	775,653	-7.8%	706,516	660,743	-6.5%
- Automation	2,136,102	2,270,448	6.3%	1,753,194	1,810,853	3.3%
Total Nonprofit	2,977,265	3,046,101	2.3%	2,459,710	2,471,596	0.5%
Nonprofit ECR	793,984	737,749	-7.1%	652,002	638,696	-2.0%
Total Bulk Rate Nonprofit	3,771,248	3,783,850	0.3%	3,111,712	3,110,292	0.0%
Total Standard Mail (A)	22,542,004	22,766,272	1.0%	19,215,607	19,368,954	0.8%
Standard Mail (B):						
Parcel Post	90,958	87,323	-4.0%	87,393	81,109	-7.2%
Bound Printed Matter	135,258	118,081	-12.7%	112,729	128,224	13.7%
Special Rate	54,880	52,421	-4.5%	47,029	54,334	15.5%
Library Rate	7,234	6,691	-7.5%	6,300	6,604	4.8%
Total Standard Mail (B)	288,330	264,516	-8.3%	253,452	270,271	6.6%
USPS Penalty Mail	94,581	82,074	-13.2%	80,635	73,537	-8.8%
Free-for-the-Blind Mail	13,630	12,578	-7.7%	11,213	10,273	-8.4%
TOTAL DOMESTIC MAIL	49,413,446	49,495,902	0.2%	47,305,913	47,562,999	0.5%
International Mail	242,790	229,871	-5.3%	278,004	267,216	-3.9%
TOTAL ALL MAIL	49,656,236	49,725,773	0.1%	47,583,916	47,830,215	0.5%
Special Services:						
Registered Mail	3,002	2,204	-26.6%	3,057	2,202	-28.0%
Insured Mail	10,877	12,876	18.4%	12,779	15,854	24.1%
Certified Mail	69,383	65,782	-5.2%	55,379	51,614	-6.8%
Collect-On-Delivery	967	1,078	11.4%	864	843	-2.4%
Money Orders	50,679	51,981	2.6%	51,292	52,261	1.9%
Return Receipts	57,290	77,666	35.6%	50,224	72,674	44.7%
Total Special Services	192,197	211,587	10.1%	173,595	195,448	12.6%

Table I-1
Before RatesForecast Compared with Actual Volumes
2000 PQ 1 to 2000 PQ 4 (Pieces in Thousands)

Mail Class	2000 PQ 3			2000 PQ 4		
	Forecast	Actual	Percent Difference	Forecast	Actual	Percent Difference
First-Class Mail:						
Single-Piece Letters	12,504,012	12,058,304	-3.6%	15,311,805	14,865,936	-2.9%
Workshared Letters	10,456,102	10,606,619	1.4%	13,572,078	13,467,614	-0.8%
Total Letters	22,960,113	22,664,923	-1.3%	28,883,882	28,333,550	-1.9%
Single-Piece Cards	652,362	660,927	1.3%	834,407	792,960	-5.0%
Workshared Cards	592,906	679,972	14.7%	779,354	790,996	1.5%
Total Cards	1,245,268	1,340,899	7.7%	1,613,761	1,583,956	-1.8%
Total First Class	24,205,382	24,005,822	-0.8%	30,497,643	29,917,506	-1.9%
Priority Mail	287,397	279,287	-2.8%	360,163	336,548	-6.6%
Express Mail	16,584	17,198	3.7%	21,256	21,223	-0.2%
Mailgrams	910	878	-3.5%	918	1,085	18.2%
Periodicals:						
Within County	207,459	210,943	1.7%	268,496	269,258	0.3%
Regular Rate	1,808,521	1,710,487	-5.4%	2,198,921	2,154,167	-2.0%
Nonprofit	516,843	507,284	-1.8%	583,175	622,813	6.8%
Classroom	16,046	16,372	2.0%	14,749	17,642	19.6%
Total Periodicals	2,548,869	2,445,086	-4.1%	3,065,341	3,063,880	0.0%
Standard Mail (A):						
Single Piece						
Regular - Presort	1,470,704	1,413,744	-3.9%	1,685,610	1,573,080	-6.7%
- Automation	8,474,483	8,843,467	4.4%	10,610,913	11,043,336	4.1%
Total Regular	9,945,187	10,257,211	3.1%	12,296,522	12,616,416	2.6%
Regular ECR	7,355,496	7,606,604	3.4%	9,264,443	9,308,466	0.5%
Total Bulk Rate Regular	17,300,683	17,863,815	3.3%	21,560,965	21,924,882	1.7%
Nonprofit - Presort	717,245	711,786	-0.8%	841,982	776,749	-7.7%
- Automation	1,882,290	1,926,158	2.3%	2,252,138	2,359,342	4.8%
Total Nonprofit	2,599,535	2,637,944	1.5%	3,094,120	3,136,091	1.4%
Nonprofit ECR	682,109	664,418	-2.6%	803,806	844,777	5.1%
Total Bulk Rate Nonprofit	3,281,644	3,302,362	0.6%	3,897,926	3,980,868	2.1%
Total Standard Mail (A)	20,582,326	21,166,177	2.8%	25,458,891	25,905,750	1.8%
Standard Mail (B):						
Parcel Post	76,229	73,549	-3.5%	89,080	81,282	-8.8%
Bound Printed Matter	90,155	107,186	18.9%	164,938	191,849	16.3%
Special Rate	46,440	50,098	7.9%	56,758	59,463	4.8%
Library Rate	6,992	6,585	-5.8%	7,796	8,149	4.5%
Total Standard Mail (B)	219,815	237,418	8.0%	318,572	340,743	7.0%
USPS Penalty Mail	81,817	87,449	6.9%	101,561	114,953	13.2%
Free-for-the-Blind Mail	12,832	10,608	-17.3%	16,822	14,895	-11.5%
TOTAL DOMESTIC MAIL	47,955,932	48,249,923	0.6%	59,841,167	59,716,583	-0.2%
International Mail	234,097	212,498	-9.2%	287,186	318,235	10.8%
TOTAL ALL MAIL	48,190,029	48,462,421	0.6%	60,128,353	60,034,818	-0.2%
Special Services:						
Registered Mail	2,979	1,961	-34.2%	3,635	2,507	-31.0%
Insured Mail	9,387	11,877	26.5%	13,626	15,907	16.7%
Certified Mail	73,392	68,776	-6.3%	80,031	82,958	3.7%
Collect-On-Delivery	899	917	2.0%	1,064	1,476	38.7%
Money Orders	54,876	55,938	1.9%	71,244	69,312	-2.7%
Return Receipts	61,616	89,916	45.9%	66,646	109,550	64.4%
Total Special Services	203,151	229,385	12.9%	236,246	281,710	19.2%

Table I-2
Comparison of Estimated Test Year Volumes
(Pieces in Thousands)

Mail Class	USPS Est. TYAR Volume	USPS Est. TYAR Volume (Revised)	PRC Est. TYAR Volume
First-Class Mail:			
Single-Piece Letters	52,877,658	52,877,658	52,828,895
Presort Letters	2,586,288	2,586,288	2,478,209
Automation Letters	44,393,448	44,393,448	44,842,082
Total Presort Letters	46,979,736	46,979,736	47,320,291
Total Letters	99,857,394	99,857,394	100,149,186
Stamped Cards	415,873	415,873	430,277
Single-Piece Post Cards	2,354,910	2,354,910	2,408,289
Total Single-Piece Cards	2,770,783	2,770,783	2,838,566
Presort Post Cards	383,715	383,715	401,721
Automation Post Cards	2,286,453	2,286,453	2,337,163
Total Presort Cards	2,670,168	2,670,168	2,738,884
Total Cards	5,440,951	5,440,951	5,577,450
Total First Class	105,298,345	105,298,345	105,726,636
Priority Mail 1/	1,249,750	1,249,838	1,243,245
Express Mail	72,301	72,298	72,819
Mailgrams	3,340	3,340	3,340
Periodicals:			
Within County	862,061	862,061	864,055
Regular Rate	7,351,808	7,351,808	7,367,646
Nonprofit	2,052,208	2,052,208	2,065,137
Classroom	55,089	55,089	55,371
Total Periodicals	10,321,166	10,321,166	10,352,209

1/ Priority Mail volume includes the additional pieces generated
due to delivery confirmation.

Table I-2
Comparison of Estimated Test Year Volumes
(Pieces in Thousands)

Mail Class	USPS Est. TYAR Volume	USPS Est. TYAR Volume (Revised)	PRC Est. TYAR Volume
Standard Mail (A):			
Regular - Presort	5,304,047	5,304,047	4,863,028
- Automation	35,694,609	35,694,609	36,137,814
Total Regular	40,998,656	40,998,656	41,000,842
Regular ECR - Presort	30,976,309	30,976,309	30,993,975
- Automation	1,851,903	1,851,903	1,911,918
Total Regular ECR	32,828,211	32,828,211	32,905,893
Total Bulk Rate Regular	73,826,867	73,826,867	73,906,735
Nonprofit - Presort	3,040,715	3,040,715	3,311,348
- Automation	8,384,865	8,384,865	8,152,482
Total Nonprofit	11,425,579	11,425,579	11,463,830
Nonprofit ECR - Presort	2,514,220	2,514,220	2,507,968
- Automation	337,655	337,655	336,853
Total Nonprofit ECR	2,851,875	2,851,875	2,844,821
Total Bulk Rate Nonprofit	14,277,455	14,277,455	14,308,651
Total Standard Mail (A)	88,104,322	88,104,322	88,215,386
Standard Mail (B):			
Parcel Post	374,096	374,096	367,601
Bound Printed Matter	524,743	524,743	530,951
Special Rate	205,789	205,789	203,076
Library Rate	28,432	28,432	28,403
Total Standard Mail (B)	1,133,060	1,133,060	1,130,031
USPS Penalty Mail	348,543	348,543	348,543
Free-for-the-Blind Mail	56,675	56,675	56,675
TOTAL DOMESTIC MAIL	206,587,500	206,587,585	207,148,884
International Mail	1,031,627	1,031,627	1,031,627
TOTAL ALL MAIL	207,619,128	207,619,212	208,180,511
Special Services:			
Registered Mail	10,966	10,966	10,966
Insured Mail	44,680	44,680	44,783
Certified Mail	274,934	274,934	279,926
Collect-On-Delivery	3,544	3,544	3,544
Money Orders	226,435	226,435	239,753
Return Receipts	220,088	220,088	223,021
Total Special Services	780,646	780,646	801,992

Summary of PRC Attributable Costs
Test Year/PRC Recommended Rates
($000)

	Short Run Variable	Product Specific Costs	Longer-Run Variable	Total Attributable	Final Adjustments	Net Attributable	Contingency @ 1.5 Percent	Grand Total Attributable
First-Class Mail:								
Single-Piece Letters	11,953,842	17,045	2,437,068	14,407,955	59,387	14,467,342	217,010	14,684,352
Presort Letters	4,627,496		854,098	5,481,594	(254,857)	5,226,737	78,401	5,305,138
Total Letters	16,581,338	17,045	3,291,166	19,889,549	(195,470)	19,694,079	295,411	19,989,491
Single-Piece Cards	494,275	903	92,908	588,086		588,086	8,821	596,907
Presort Post Cards	154,526		26,998	181,524	(4,534)	176,990	2,655	179,644
Total Cards	648,801	903	119,906	769,610	(4,534)	765,076	11,476	776,552
Total First-Class	17,230,139	17,948	3,411,072	20,659,159	(200,004)	20,459,155	306,887	20,766,042
Priority Mail	2,967,868	75,160	311,212	3,354,240	103,182	3,457,422	51,861	3,509,283
Express Mail	582,908	10,745	95,984	689,637		689,637	10,345	699,982
Mailgrams	683		156	839		839	13	852
Periodicals:								
Within County	69,337		11,931	81,268		81,268	1,219	82,487
Regular Rate	1,644,158		266,618	1,910,776	(30,065)	1,880,711	28,211	1,908,922
Nonprofit	322,781		50,224	373,005	(8,892)	364,113	5,462	369,575
Classroom	11,844		1,976	13,820		13,820	207	14,027
Total Periodicals	2,048,120		330,749	2,378,869	(38,957)	2,339,912	35,099	2,375,011
Standard Mail:								
Single Piece	0		0	0		0	0	0
Regular - Other	5,646,707		1,088,471	6,735,178	(229,482)	6,505,696	97,585	6,603,281
- ECR	2,172,542		366,942	2,539,484	8,429	2,547,913	38,219	2,586,132
Total Bulk Rate Regular	7,819,249		1,455,413	9,274,662	(221,053)	9,053,609	135,804	9,189,413
Nonprofit - Other	1,175,990		232,667	1,408,657	(13,283)	1,395,374	20,931	1,416,304
- ECR	160,654		30,831	191,485	1,440	192,925	2,894	195,818
Total Bulk Rate Nonprofit	1,336,644		263,498	1,600,142	(11,844)	1,588,298	23,824	1,612,123
Total Standard Mail (A)	9,155,893		1,718,911	10,874,804	(232,897)	10,641,907	159,629	10,801,536

	Short Run Variable	Product Specific Costs	Longer-Run Variable	Total Attributable	Final Adjustments	Net Attributable	Contingency @ 1.5 Percent	Grand Total Attributable
Package Services:								
Parcel Post	985,791	555	152,453	1,138,799	(118,368)	1,020,431	15,306	1,035,737
Bound Printed Matter	407,308		77,686	484,994		484,994	7,275	492,269
Media Mail	267,622		54,541	322,163		322,163	4,832	326,995
Library Rate	43,882		7,478	51,360		51,360	770	52,130
Total Standard Mail (B)	1,704,603	555	292,158	1,997,316	(118,368)	1,878,948	28,184	1,907,132
USPS Penalty Mail	255,139		53,060	308,199	(308,199)	0	0	0
Free Mail for the Blind & Hndc	27,936		4,837	32,773		32,773	492	33,265
TOTAL DOMESTIC MAIL	33,973,289	104,408	6,218,139	40,295,836	(795,242)	39,500,594	592,509	40,093,103
International Mail	1,471,770	56,644	121,132	1,649,546		1,649,546	24,743	1,674,289
TOTAL ALL MAIL	35,445,059	161,052	6,339,271	41,945,382	(795,242)	41,150,140	617,252	41,767,392
Special Services:								
Registered Mail	50,989		21,578	72,567	(149)	72,418	1,086	73,504
Insured Mail	67,212		9,459	76,671	(350)	76,321	1,145	77,466
Certified Mail	367,178		70,849	438,027	3,397	441,424	6,621	448,045
Collect-On-Delivery	14,099		2,574	16,673	(48)	16,625	249	16,874
Special Delivery	0		0	0		0	0	0
Money Orders	139,290	12,500	29,391	181,181		181,181	2,718	183,899
Stamped Cards	2,971		4	2,975		2,975	45	3,020
Stamped Envelopes	10,199		490	10,689		10,689	160	10,849
Special Handling	736		303	1,039		1,039	16	1,055
Post Office Boxes	94,943	894	473,280	569,117		569,117	8,537	577,654
Other Special Services	144,414		30,524	174,938	(512)	174,426	2,616	177,043
Total Special Services	892,031	13,394	638,452	1,543,877	2,338	1,546,215	23,193	1,569,408
Total Attributable	36,337,090	174,446	6,977,723	43,489,259	(792,905)	42,696,354	640,445	43,336,800
Other Costs	31,642,628	(174,446)	(6,977,723)	24,490,459	(308,199)	24,798,658	371,980	25,170,638
Total Costs	67,979,718	161,052		67,979,718	(484,706)	67,495,012	1,012,425	68,507,438
Prior Years Loss Recovery								311,709
Total Revenue Requirement								68,819,147

PRC Distribution of Attributable Costs to Classes and Services
Test Year/PRC Recommended Rates
($000)

	Post-Masters	Supervisors	Clerks & Mailhandlers CAG A-J	Clerks, CAG K	City Delivery Carriers	Vehicle Service Drivers	Rural Carriers	Custodial Maintenance Service	Motor Vehicle Service	Misc. Operating Costs
First-Class Mail:										
Single-Piece Letters	114,855	734,179	6,774,540	1,849	2,028,042	32,627	313,552	758,619	43,966	2,731
Presort Letters	67,937	264,923	1,886,559	530	1,242,616	22,424	302,990	241,276	28,539	1,715
Total Letters	182,792	999,102	8,661,099	2,379	3,270,658	55,051	616,542	999,895	72,505	4,446
Single-Piece Cards	3,079	32,066	270,686	67	114,610	248	17,582	22,819	1,791	149
Presort Post Cards	2,319	8,935	59,524	16	48,490	309	15,220	6,206	1,041	66
Total Cards	5,398	41,001	330,210	83	163,100	557	32,802	29,025	2,832	215
Total First-Class	188,190	1,040,103	8,991,309	2,462	3,433,758	55,608	649,344	1,028,920	75,337	4,661
Priority Mail	24,535	94,937	994,811	499	181,793	32,691	37,690	64,021	15,216	205
Express Mail	5,271	25,454	266,533	-	42,904	1,912	10,140	12,051	6,185	381
Mailgrams	-	46	320	-	235	1	16	29	24	1
Periodicals:										
Within County	393	3,872	22,138	5	20,523	2,396	14,359	2,099	1,111	29
Regular Rate	9,035	88,012	691,514	172	292,119	36,966	122,444	66,574	12,589	378
Nonprofit	1,702	17,102	119,464	30	62,629	5,809	34,321	11,943	2,700	85
Classroom	65	632	5,202	1	1,579	310	920	557	106	2
Total Periodicals	11,195	109,618	838,318	208	376,850	45,481	172,044	81,173	16,506	494
Standard Mail:										
Single Piece	-	-	-	-	-	-	-	-	-	-
Regular - Other	25,590	110,610	497,397	138	873,986	50,082	387,700	65,276	32,597	1,140
- ECR	44,025	322,622	2,690,357	886	1,238,164	52,160	435,562	296,655	30,017	1,642
Total Bulk Rate Regular	69,615	433,232	3,187,754	1,024	2,112,150	102,242	823,262	361,931	62,614	2,782
Nonprofit - Other	1,172	8,931	58,703	17	50,937	2,268	18,548	7,766	1,486	68
- ECR	7,329	68,268	589,103	186	247,961	8,136	82,539	66,133	5,636	341
Total Bulk Rate Nonprofit	8,501	77,199	647,806	203	298,898	10,404	101,087	73,899	7,122	409
Total Standard Mail (A)	78,116	510,431	3,835,560	1,227	2,411,048	112,646	924,349	435,830	69,736	3,191

	Post-Masters	Supervisors	Clerks & Mailhandlers CAG A - J	Clerks, CAG K	City Delivery Carriers	Vehicle Service Drivers	Rural Carriers	Custodial Maintenance Service	Motor Vehicle Service	Misc. Operating Costs
Package Services:										
Parcel Post	6,208	38,906	379,804	166	71,237	58,201	26,229	34,534	13,847	83
Bound Printed Matter	2,513	20,115	171,643	77	67,156	17,056	18,910	18,711	7,710	77
Media Mail	1,680	12,265	125,219	54	28,625	5,332	6,542	14,129	2,948	32
Library Rate	248	1,941	19,855	9	4,452	713	1,266	1,768	464	4
Total Standard Mail (B)	10,649	73,227	696,521	306	171,470	81,302	52,947	69,142	24,969	196
USPS Penalty Mail	-	18,097	188,508	-	21,303	1,209	1,704	12,115	482	26
Free Mail for the Blind & Hndc	-	1,410	12,567	-	4,375	505	2,055	1,233	178	6
TOTAL DOMESTIC MAIL	317,956	1,873,323	15,824,447	4,702	6,643,736	331,355	1,850,289	1,704,514	208,633	9,161
International Mail	7,783	34,972	368,593	-	26,703	4,548	2,863	36,019	2,585	99
TOTAL ALL MAIL	325,739	1,908,295	16,193,040	4,702	6,670,439	335,903	1,853,152	1,740,533	211,218	9,260
Special Services:										
Registered Mail	419	2,874	28,795	11	7,076	-	2,226	5,583	145	9
Insured Mail	3,590	21,265	110,520	27	140,307	-	71,042	10,689	2,425	185
Certified Mail	454	3,318	26,729	2	7,194	-	7,291	1,487	191	10
Collect-On-Delivery	91	706	5,211	2	2,815	-	2,526	429	72	4
Special Delivery	-	-	-	-	-	-	-	-	-	-
Money Orders	1,308	11,671	111,395	-	-	-	901	4,842	10	-
Stamped Cards	16	-	-	-	-	-	-	-	-	-
Stamped Envelopes	145	191	1,829	-	(67)	-	-	84	-	-
Special Handling	1	72	595	-	-	-	-	87	-	-
Post Office Boxes	3,605	8,430	78,640	-	1,027	-	-	134,485	3	1
Other Special Services	-	9,517	102,717	55	12,716	-	33	8,672	97	9
Total Special Services	9,629	58,044	466,431	97	171,068	-	84,019	166,358	2,943	218
Total Attributable	335,368	1,966,339	16,659,471	4,799	6,841,507	335,903	1,937,171	1,906,891	214,161	9,478
Other Costs	1,497,563	1,764,993	2,736,967	3,754	6,757,304	209,244	2,543,735	884,193	522,123	351,767
Total Costs	1,832,931	3,731,332	19,396,438	8,553	13,598,811	545,147	4,480,906	2,791,084	736,284	361,245

Prior Years Loss Recovery
Total Revenue Requirement

PRC Distribution of Attributable Costs to Classes and Services
Test Year/PRC Recommended Rates
($000)

	Trans-portation	Building Occupancy	Supplies & Services	Research & Development	Admin. & Regional Operations	General Management Systems	Depreciation & Service-wide Costs	Final Adjustments	Contingency	Total PRC Attributable Costs
First-Class Mail:										
Single-Piece Letters	616,069	333,524	663,185	-	930,366	-	1,059,848	59,387	217,010	14,684,349
Presort Letters	424,216	112,417	179,635	-	341,782	-	364,033	(254,857)	78,401	5,305,136
Total Letters	1,040,285	445,941	842,820	-	1,272,148	-	1,423,881	(195,470)	295,411	19,989,486
Single-Piece Cards	7,403	12,575	27,556	-	39,946	-	37,509		8,821	596,907
Presort Post Cards	7,402	3,531	5,905	-	11,941	-	10,621	(4,534)	2,655	179,646
Total Cards	14,805	16,106	33,461	-	51,887	-	48,130	(4,534)	11,476	776,554
Total First-Class	1,055,090	462,047	876,281	-	1,324,035	-	1,472,011	(200,004)	306,887	20,766,039
Priority Mail	809,186	57,275	795,645	-	140,072	-	105,663	103,182	51,861	3,509,282
Express Mail	213,918	12,660	37,440	-	29,171	-	25,616		10,345	699,981
Mailgrams	-	29	32	-	57	-	51		13	854
Periodicals:										
Within County	64	1,716	2,755	-	5,596	-	4,211		1,219	82,486
Regular Rate	280,596	40,745	59,583	-	111,245	-	98,802	(30,065)	28,211	1,908,920
Nonprofit	57,535	7,416	11,867	-	21,518	-	18,883	(8,892)	5,462	369,574
Classroom	2,112	285	469	-	789	-	791		207	14,027
Total Periodicals	340,307	50,162	74,674	-	139,148	-	122,687	(38,957)	35,099	2,375,007
Standard Mail (A):										
Single Piece	-	-	-	-	-	-	-	-	-	-
Regular - Other	54,556	49,011	84,447	-	170,815	-	136,138	(229,482)	34,650	6,844,763
- ECR	353,432	154,702	241,879	-	431,570	-	441,507	8,429	101,154	2,344,651
Total Bulk Rate Regular	407,988	203,713	326,326	-	602,385	-	577,645	(221,053)	135,804	9,189,414
Nonprofit - Other	4,700	4,293	7,575	-	12,606	-	12,412	(13,283)	2,673	180,872
- ECR	57,870	32,855	55,576	-	90,849	-	95,874	1,440	21,151	1,431,247
Total Bulk Rate Nonprofit	62,570	37,148	63,151	-	103,455	-	108,286	(11,844)	23,824	1,612,119
Total Standard Mail (A)	470,558	240,861	389,477	-	705,840	-	685,931	(232,897)	159,629	10,801,533

	Trans-portation	Building Occupancy	Supplies & Services	Research & Development	Admin. & Regional Operations	General Management Systems	Depreciation & Service-wide Costs	Final Adjustments	Contingency	Total PRC Attributable Costs
Standard Mail (B):										
Parcel Post	341,428	22,696	28,359	-	52,878	-	64,218	(118,368)	15,306	1,035,732
Bound Printed Matter	73,604	11,041	15,291	-	27,172	-	33,920		7,275	492,271
Special Rate	65,300	8,348	10,624	-	16,682	-	24,382		4,832	326,994
Library Rate	12,250	1,139	1,530	-	2,595	-	3,127		770	52,131
Total Standard Mail (B)	492,582	43,224	55,804	-	99,327	-	125,647	(118,368)	28,184	1,907,129
USPS Penalty Mail	4,118	8,698	11,938	-	20,667	-	19,334	(308,199)	-	-
Free Mail for the Blind & Hndc	4,940	719	993	-	1,887	-	1,906		492	33,266
TOTAL DOMESTIC MAIL	3,390,699	875,675	2,242,284	-	2,460,204	-	2,558,846	(795,242)	592,509	40,093,091
International Mail	939,820	25,280	77,738	-	70,613	160	51,761		24,743	1,674,280
TOTAL ALL MAIL	4,330,519	900,955	2,320,022	-	2,530,817	160	2,610,607	(795,242)	617,252	41,767,371
Special Services:										
Registered Mail	-	5,718	2,453	-	4,202	-	13,053	(149)	1,086	73,501
Insured Mail	-	12,327	12,254	-	30,405	-	22,994	(350)	6,565	444,245
Certified Mail	-	1,715	1,721	-	3,953	-	22,603	3,397	1,201	81,266
Collect-On-Delivery	-	491	486	-	1,006	-	2,832	(48)	249	16,872
Special Delivery	-	-	-	-	-	-	-		-	-
Money Orders	-	5,770	19,296	-	16,861	-	9,125		2,718	183,897
Stamped Cards	-	1	2,955	-	-	-	2		45	3,019
Stamped Envelopes	-	99	8,069	-	185	-	152		160	10,847
Special Handling	-	74	40	-	67	-	104		16	1,056
Post Office Boxes	-	163,493	15,858	-	26,762	-	136,812		8,537	577,653
Other Special Services	-	4,819	12,975	-	11,367	-	11,961	(512)	2,616	177,043
Total Special Services	-	194,507	76,107	-	94,808	-	219,638	2,338	23,193	1,569,398
Total Attributable	4,330,519	1,095,462	2,396,129	-	2,625,625	160	2,830,245	(792,905)	640,445	43,336,768
Other Costs	318,492	487,631	1,662,518	45,342	3,259,937	52,335	1,392,592	308,199	371,980	25,170,669
Total Costs	4,649,011	1,583,093	4,058,647	45,342	5,885,562	52,495	4,222,837	(484,706)	1,012,425	68,507,438
Prior Years Loss Recovery										311,709
Total Revenue Requirement										68,819,147

Unit Attributable Cost Comparison
Test Year

	PRC R97-1 ($)	PRC R2000-1 ($)	Change Over PRC R97-1 (%)
First-Class			
Single Letter	0.2748	0.2780	1.15%
Presort Letter	0.1106	0.1121	1.37%
Total Letter	0.2032	0.1996	-1.78%
Cards	0.1240	0.1392	12.27%
Priority Mail	2.1790	2.8227	29.54%
Express Mail	12.1853	9.6126	-21.11%
Periodicals:			
Within County	0.0916	0.0937	2.28%
Regular Rate	0.2355	0.2591	10.01%
Nonprofit	0.1643	0.1790	8.94%
Classroom	0.2756	0.2533	-8.08%
Standard Mail:			
Single Piece	-	-	0
Regular Rate - Other	0.1573	0.1611	2.37%
Regular Rate - ECR	0.0733	0.0786	7.20%
Total Regular Rate	0.1211	0.1243	2.71%
Bulk Nonprofit - Other	0.1110	0.0990	-10.80%
Bulk Nonprofit - ECR	0.0524	0.0688	31.44%
Total Nonprofit	0.0994	0.1127	13.33%
Package Services:			
Parcel Post	3.1984	2.8176	-11.91%
Bound Printed Matter	0.6889	0.9271	34.59%
Media Mail	1.5089	1.6102	6.71%
Library Rate	2.0184	1.8354	-9.07%
Free for the Blind	0.6496	0.5869	-9.64%
International Mail	1.3037	1.6230	24.49%
Registry	5.7278	6.7029	17.02%
Certified	1.2302	1.6006	30.11%
Insurance	1.5854	1.7298	9.11%
COD	4.8571	4.7613	-1.97%
Money Orders	0.6504	0.7670	17.93%

CHANGES TO TYAR NET INCOME:
POSTAL SERVICE FILING THROUGH PRC RECOMMENDED DECISION

The purpose of this appendix is to provide a chronological history of the estimated net income for the test year after rates from the time the Postal Service filed its original rate request on January 12, 2000, its revisions to its supporting evidence, its response to Commission Order No. 1294, its revisions and corrections to that response, and finally through adjustments made in the Commission's Opinion and Recommended Decision. A table showing the effect on net income of all that has transpired in Docket No. R2000-1 is attached. The following narrative is a description of that table with the line numbers of the table noted within the text.

d. Original USPS Filing

The Postal Service filed its Request on January 12, 2000. The filing included the testimony of witness Tayman the test year after rates (TYAR) revenues and the revenue requirement. The revenue requirement includes the estimated accrued costs, a provision for contingencies (2.5% of the estimated accrued costs), and a recovery of prior years losses. This amount, $69,138.7 million, is offset by the estimated total revenues generated by the proposed rates, $69,116.8 million, to produce an estimated net loss of $21.8 million (**L.1**).

Subsequent to the filing various Postal Service witnesses proposed revisions to both estimated TYAR revenues and estimated TYAR costs, in response to POIR Nos. 1 and 3. These revisions decreased revenues by $51.3 (**L.2a**) million and decreased costs $111.3 million (**L.2b**). These revisions produced a net revenue change of $60.1 million that changed the net loss of $21.8 million shown in witness Tayman's original testimony to a net income of $38.2 million (**L.3**).

9. USPS Response to Order No. 1294

On July 7, 2000 the Postal Service presented data in response to Commission Order No. 1294 which updated the Service's original test year after rates financial statements. The updated financial statements included the revised revenues noted above plus an additional $304 million in other income from estimated E-Commerce initiatives (**L.4a**). Additionally, TYAR costs were revised to reflect (1) a new starting point for the estimation process from FY 1998 to FY 1999 and (2) new cost change factors to reflect both the new starting point and updates to change factors such as inflation, budgetary targets, and new cost reduction initiatives. The update increased TYAR accrued costs $560.1 million. Because the proposed 2.5 percent contingency is calculated on a higher accrued cost base, the amount included for the provision for contingencies increased $14.0 million. Additionally, the interim year (the year, or years, between the base period and the test year), FY 2000, net income projection changed. Witness Tayman originally estimated that in FY 2000 the Postal Service would have a net income of $65.6 million. After the update, the net income for FY 2000 became a net loss of $325.5 million. Because the calculation of the Recovery of Prior Years Losses (RPYL) includes the interim year net income or loss as part of the calculation, the FY 2000 net income or loss revision added $43.4 million the RPYL. The sum total of revenue requirement changes due to the Order No. 1294 update increases the revenue requirement $617.5 million (**L.4b**). The effect on net income of the Order No. 1294 update was to change the aforementioned $38.2 million net income to a $275.3 million net loss.

During the discovery phase on the USPS response to Order No. 1294, the Postal Service noted that they had made an error in the calculation of the TYAR costs. In the revised response to POIR 14, the Postal Service noted that the July 7 update inadvertently omitted a $200 million "field reserve" from the update and the $275.3 million TYAR revenue deficiency should be revised to $475.3 million. However, the Postal Service miscalculated the full effect on the updated net loss. During cross-examination by counsel from the OCA, witness Patelunas described how the "field

reserve" would be accounted for in the updated rollforward of costs to the test year. He said that "…where I could identify breakthrough productivity, I ratioed everything down such that the ($) 200 million was not in the cost reductions." Tr. 35/16784. If the accounting for the "field reserve" had been done correctly total accrued costs would be higher by $200 million. Since the contingency provision is a percentage of total accrued costs and the accrued costs would be higher by $200 million if they had been estimated accurately, the contingency would also be higher by an additional $5 million (200 million x 2.5%). So the actual effect for net income on the updated TYAR would be a $205 million increase in net loss, making it $480.3 million (**L.5**).

The Commission noted in POIR 16 that while the response to Order No. 1294 included test year costs and volumes projected from a FY 1999 base year, revenues were still projected primarily on FY 1998 product characteristics (billing determinants). The Commission requested that the Postal Service provide estimated revenues on the basis of appropriate billing determinants. The Postal Service responded on July 24, 2000 that ideally, test year revenues should be estimated on the basis of a set of "hybrid" billing determinants. The "hybrid" year would consist of the last two quarters of FY 1999 (qtrs. 3 and 4) and the first two quarters of FY 2000 (qtrs. 1 and 2). The Postal Service provided the requested data on July 27 and subsequently revised the data on August 3. Using the revised "hybrid" billing determinant data estimated TYAR revenues increased $8.8 million over the original TYAR revenue estimates filed with the response to Order No. 1294 (**L.6**). Additionally, the Commission asked the Postal Service if the accrued cost final adjustments originally filed with the Order No. 1294 update would still be the correct final adjustments to use with the hybrid billing determinants provided in response to POIR 16. The Postal Service responded that for the most part the final adjustments used in the original update would be appropriate; however, there were two exceptions. The Service indicated that Parcel Post volume distributions and First-Class single-piece mail weight distributions would change with the hybrid billing determinants. The Service provided the revised final adjustments in LR-I-483. These changes to final adjustments reduced accrued costs $35.4 million. Again, since contingency is a percentage of

accrued costs if the accrued costs decline the amount for contingency also changes, in this case $0.9 million (**L.7**). Accounting for the increase in revenues of $8.8 million, reduction of accrued costs of $35.4 million, and the reduction of contingency of $0.8, the estimated net loss is now $435.2 million.

In the course of reviewing the assorted workpapers and library references containing the calculations of revenues, volumes, and costs for the TYAR, several errors were detected. Errors were found in the calculation of revenues of several subclasses and services of mail. Correcting these errors increased revenues $49.6 million. Errors were also found in the calculation of costs for TYAR. Correcting these errors increased costs $18.2 million with an accompanying increase in the contingency associated with TYAR costs of $0.4 million. The net result of correcting the revenue calculations and revenue requirement calculations is to decrease the net loss $31.0 million to $404.1 million.

10. Commission Adjustments

The Commission has adopted changes in the Postal Service direct case for cost attributions, revenue requirement cost change factors, and various other adjustments that affect the total TYAR revenue requirement. The following is a brief summary of the adjustments adopted by the Commission and their effect on the net income projected for the TYAR.

a. Cost Attribution Methodology

The Commission has adopted various cost attribution adjustments in this docket. Among them are changes in the variability and/or distribution of mail processing direct labor, city carrier street time, rural carriers and purchased transportation (**L.10-14**). These cost attribution adjustments have an effect on the total test year accrued costs and therefore the revenue requirement. Taking into account all of the cost attribution changes the Commission has adopted, the revenue requirement increases by $56.4

million (including contingency) (**L.15**). The effect will be to increase the cumulative net loss for the TYAR to $460.5 million.

    b.   Revenue Requirement Cost Change Factors

The Commission has also adopted various changes to the Service's revenue requirement suggested by intervenors. These changes include increasing the cost reduction for decreasing the incidence of bundle breakage in mail processing and adding a final adjustment for Periodicals due to the use of hybrid billing determinants (**L.16)**. The Commission also adopted cost reductions for mail processing and city carrier supervisors (**L.18**) and took account of more recent information in the calculation of the cost level factors of the cost rollforward process (**L.17**). The affect of these adjustments are to reduce the revenue requirement $152.6 million (**L.19**) and thus to decrease the net loss to $307.9 million.

    c.   Other Adjustments

The Commission made other adjustments to the revenue requirement of which one resulted from the changes discussed above. Final adjustments are calculated to take into account the change in the mix of mail volume as a result of changes in rates and classifications. Adopting changes in cost attribution and revenue requirement cost change factors altered some of the inputs used in the calculation of final adjustments. Recalculating final adjustments for these changes increases the amounts of the adjustments, and therefore reduces the revenue requirement and the net loss by $42.4 million (**L.20**).

The Commission also decided that the field reserve was actually the type of uncertainty that the contingency was designed to account for. Therefore, including it as a offset to planned "breakthrough productivity" cost reductions was redundant. Disallowing the field reserve would reduce the revenue requirement and the net loss $205 million (**L.21**).

The Commission adopted a change in the calculation of First-Class additional ounce revenue and adjusted Periodicals Within County volumes for the Base Year (FY 1999) through the test year. Adopting these changes would increase revenue $135.1 million and reduce the net loss by the same amount (**L.22**).

In summary, the total Commission adjustments reduce the revenue requirement $478.7 million (**L.24**) and the net loss becomes a net income of $74.6 million (**L.25**) for the TYAR under the Postal Service's proposed rates.

d. Reduction of Contingency

The Commission was persuaded by the evidence that the contingency provision of 2.5% of total accrued costs was excessive. Reducing the contingency to 1.5% of total accrued costs reduced the revenue requirement $674.9 million (**L.26**) resulting in a net income of $749.5 million assuming Postal Service proposed rates (**L.28**).

11. Commission Recommended Rate and Fee Changes

The rates and fee changes recommended by the Commission are smaller than those proposed by the Postal Service. The Commission recommended rates and fees will generate $726.3 million less revenue than that proposed by the Postal Service (**L.29a**). Additionally, the lower recommended rates and fees will induce additional volumes and therefore increase volume variable costs and the total revenue requirement (**L.29b**). The total effect is to reduce net income $731.7 million (**L.29**) resulting in the Commission's total net income of $17.8 million (**L.30**).

Effect on TYAR Net Income of Commission Adjustments to USPS Case
Docket No. R2000-1
($000)

		Adjustments	Sub-Total	Net Income
1	USPS TYAR Net Income (Loss) (1/12/00)			(21,833)
2	Revisions and Acknowledged Corrections:			
2a	Revenue	(51,261)		
2b	Costs	111,315		
3	USPS Adjusted TYAR Net Income (Loss)		60,054	38,221
	Order No. 1294 Update:			
4	Order No. 1294 USPS Response (Patelunas Testimony-7/7/00):			
4a	Revenue	304,000		
4b	Costs	(617,522)	(313,522)	(275,301)
	Adjustments to Order No. 1294:			
5	Field Reserves (POIR 14, Revised 8/3/00)	(205,000)		
6	Hybrid Billing Determinants (POIR 16, Revised 8/3/00)	8,871		
7	Hybrid Final Adjustments (POIR 21, #1, 8/30/00, LR-I-483)	36,277		
	PRC & USPS Revisions and Corrections:			
8a	Revenue	49,625		
8b	Costs	(18,609)		
			(128,836)	
9	Order No. 1294 Update Adjusted Net Income			(404,137)
	PRC Adjustments:			
	Attribution Adjustments:			
10	Mail Processing	(47,672)		
11	City Carriers	7,085		
12	Transportation	(12,640)		
13	Rural Carriers	(2,679)		
14	Prod. Spec. & Expid. Del.	(469)		
15	Sub-Total Attribution Adjustments		(56,375)	(460,512)
	Revenue Requirement Adjustments:			
16	Periodicals Cost Adjustment (Bundl. Brkg. & Final Adj.)	73,120		
17	Known & Certain	(17,956)		
18	Superv. Cost Reduction	97,403		
19	Sub-Total Revenue Requirement Adjustments		152,567	(307,945)
	Other Adjustments:			
20	Final Adjustments (For PRC Cost Methodol.)	42,398		
21	Field Reserve	205,000		
22	PRC 1st. Cl. Addl. Oz. & Within Cty. Vol. Adj. (Revenue Only)	135,106		
23	Sub-Total Other Adjustments		382,504	
24	Total Commission Cost and Revenue Adjustments		478,696	
25	Net Income Prior to Contingency and Rate Reductions			74,559
26	Contingency		674,897	
27	Total Commission Revenue Requirement Adjustments		1,153,593	
28	PRC Net Income @ USPS Proposed Rates			749,456
	PRC Recommended Rate Changes			
29a	Revenue	(726,268)		
29b	Costs	(5,437)		
29	Total PRC Recommended Rate Changes		(731,705)	
30	PRC TYAR Net Income @ PRC Proposed Rates			17,751

POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268-0001

EDWARD J. GLEIMAN
CHAIRMAN

August 9, 2000

The Honorable William J. Henderson
Postmaster General
United States Postal Service
475 L'Enfant Plaza, SW
Rm. 10022
Washington, DC 20260-0010

Dear Postmaster General Henderson:

The Commission is currently in the seventh month of its evaluation of the Postal Service Request for changes in rates and fees, Docket No. R2000-1. The Postal Service and interested members of the public have already presented their cases, and the evidentiary record in this case will close shortly, after the receipt of final rebuttal testimony. In response to Commission Order No. 1294, the Postal Service recently revised its cost projections to include audited fiscal 1999 results. At that time, the Service also was permitted to reflect events since the Request was prepared by updating the "cost change factors" used in its projections.

One aspect of that revision appears to reflect a significant change in Postal Service policy. Because of the importance of the change, and because the witness who sponsored the change could not assure the Commission that senior management authorized the change (and in fact could not recall who instructed him to incorporate it into his presentation), the Commission has determined to consult with you directly on this issue. The change regards the still to be negotiated wage increases that the Postal Service expects to pay in fiscal year 2001.

In Docket No. R87-1, the Postal Service presented testimony explaining that consistent with the Kerr Arbitration Award resolving labor negotiations in 1984, the Service had adopted the policy that changes in wage rates would be held at least one percent below the Employment Cost Index (ECI). It is the Commission's belief that the Postal Service has adhered to this policy since that case, and initial Postal Service projections of postal wage growth in our current case, presented by witness Tayman, continued to reflect the ECI-Minus-One policy.

The Honorable William J. Henderson
Postmaster General
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However, the Postal Service supplemental testimony updating projections of 2001 costs to reflect recent events, without any explanation or justification, ignores the ECI-Minus-One policy and projects wage growth that matches the expected growth in ECI. The sponsoring witness was questioned to confirm that the Postal Service had changed its policy in this area but he was totally unable to do so. Tr. 35/16796 – 16800 (attached). He was unable to affirm that the Board of Governors, you, the Deputy PMG, or your chief financial officer had authorized, or was even aware of the implicit change in policy. He admitted that he had not attempted to learn whether Postal Service representatives in the upcoming labor negotiations would abandon the policy of wage growth one percent below ECI. Finally, he could not verify that his wage growth estimates were consistent with your stated policy to reduce Postal Service costs by $1 billion a year.

During the period since the pending rate case was filed, the projected level of the Employment Cost Index has risen. The Commission expected to be informed of changes of this nature that might have to be incorporated into rate case cost estimates in order to achieve the most accurate measure of revenues needs, such as the larger cost of living adjustments that are included in the updated cost projections. However, if the Postal Service has abandoned the policy of limiting wage growth to ECI-Minus-One, this separate factor alone will increase Postal Service costs by hundreds of millions of dollars each year beginning in 2001.

The Commission determined to address you directly on this issue because of the important ramifications of the ECI-Minus-One policy, and the limited remaining time before the Commission will have to close the evidentiary record. Please review this situation and confirm whether or not the Postal Service has abandoned its longstanding ECI-Minus-One wage growth policy.

Thank you for your assistance with this matter. Consistent with the public nature of Commission rate proceedings, copies of this letter will be provided to the full service list in Docket No. R2000-1.

Sincerely,

Edward J. Gleiman
Chairman

Enclosures

16796

1   THE WITNESS: I don't think so. If that's where

2   the question stops is in '99 in just DRI.

3   CHAIRMAN GLEIMAN: Well, let me turn now to a

4   change that you made that I consider to be a change in

5   policy.

6   In each rate case since the R87-1 docket the

7   Postal Service has employed the assumption that changes in

8   wage rates would be limited to at least one percent below

9   the employment cost index -- this is ECI minus 1.

10   It was an assumption adopted by the Postal Service

11   following the Kerr arbitration award in 1984.

12   In R87 Postal Service Witness Burdette explained

13   that the Kerr arbitration award was premised in relevant

14   part on the finding that Postal wages exceeded the

15   comparability standard established in Section 1003 of the

16   Act. He went on to state that the Kerr award recommended

17   that the way to eliminate the wage premium was to limit wage

18   growth to bargaining employees to one percent less than the

19   growth in private sector wages. ECI measures growth in

20   private sector wages. Thus, since the Kerr award Postal

21   Service policy has been to obtain Postal Service wage

22   increases limited to ECI minus 1.

23   Since that time rate case projections of Postal

24   wage growth have always been below ECI and Postal Service

25   Witnesses have always adhered to the rationale that Postal

16797

1   wages exceeded the comparability standard.

2   In this case Witness Tayman presented Postal

3   Service projections of Postal wage growth that continued the

4   ECI minus 1 policy.

5   Now for the first time since R87 in your update

6   you have abandoned the rationale that Postal wages exceed

7   the comparability standard and deviated from the ECI minus

8   something method of estimating wage changes.

9   I have some questions about this change.

10   First, did you brief the Board of Governors on

11 this change and did they authorize you to abandon the

12 position that Postal wages exceed the comparability

13 standard?

14   THE WITNESS: I don't know what the Board was

15 briefed on.

16   CHAIRMAN GLEIMAN: You did not brief the Board?

17   THE WITNESS: I did not.

18   CHAIRMAN GLEIMAN: And you don't know if the Board

19 was briefed on this?

20   THE WITNESS: That's true.

21   CHAIRMAN GLEIMAN: Did Postmaster General

22 Henderson direct you to change the method of estimating wage

23 growth?

24   THE WITNESS: Not directly.

25   CHAIRMAN GLEIMAN: Indirectly?

16798

1   THE WITNESS: I don't know.

2   CHAIRMAN GLEIMAN: Well, what do you mean by not

3   directly?

4   THE WITNESS: He has never said a word to me. I

5   don't know if this came from his direction or not.

6   CHAIRMAN GLEIMAN: You don't know if or you don't

7   know -- you have no reason to believe that it did?

8   THE WITNESS: I don't know that it did or it

9   didn't. I just don't know.

10   CHAIRMAN GLEIMAN: Did anyone tell you that the

11   Postmaster General was in favor of abandoning the previous

12   Postal Service policy with regard to wage comparability?

13   THE WITNESS: Nobody told me that.

14   CHAIRMAN GLEIMAN: Did Deputy Postmaster General

15   Nolan, to your knowledge, pass the word down the line that

16   this policy was to be changed?

17   THE WITNESS: Not to my knowledge.

18   CHAIRMAN GLEIMAN: Did Acting Controller Strasser

19   direct you to make this change, or do you know whether he

20   directed someone else to pass this down the line to you?

21   THE WITNESS: I don't know.

22   CHAIRMAN GLEIMAN: Is this change consistent with

23   Postmaster General Henderson's policy of reducing mail

24   processing costs by $700 million annually, as he annunciated

25   in his Memphis Postal Forum speech this past spring?

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16799

1   THE WITNESS: I don't know if it is consistent

2   with that or not.

3   CHAIRMAN GLEIMAN: Do you know whether Postal

4   Management intends to abandon the position that Postal wages

5   exceed the comparability standard in upcoming wage

6   negotiations?

7   THE WITNESS: I don't know.

8   CHAIRMAN GLEIMAN: Did you inquire from upper

9   level Management whether it intended to abandon the position

10   that Postal wages exceed comparability in the upcoming

11   negotiations?

12   THE WITNESS: No, I didn't.

13   CHAIRMAN GLEIMAN: I think I will pass the baton

14   right now and let my colleague take a shot at you. He has

15   got some questions too.

16   COMMISSIONER LeBLANC: Mr. Patelunas, let me jut

17   follow up on what the Chairman said.

18   Whose decision was it? Did you just arbitrarily

19   pick the ECI minus 1?

20   THE WITNESS: No, I didn't make the decision --

21   COMMISSIONER LeBLANC: How did it come about?

22   THE WITNESS: Postal Management after reviewing

23   conditions and trends determined that the ECI assumption was

24   more appropriate for the test year 2001.

25   COMMISSIONER LeBLANC: With all due respect, the

16800

1   Chairman gave you a list of Postal Management. Who is left?

2   THE WITNESS: I can only refer to this as Postal

3   Management made the decision. I don't know at what level or

4   what particular individuals made that decision.

5   COMMISSIONER LeBLANC: But yet you took it on your

6   own to do it then?

7   If they did not tell you to do it, then you took

8   it on your own to do it. Somebody either had to tell you to

9   do it or you took it on your own to do it.

10   Now would you please tell me one way or another

11   how that happened?

12   THE WITNESS: I was instructed to do it.

13   COMMISSIONER LeBLANC: By who, sir?

14   [Pause.]

15   THE WITNESS: I have to think. It's hard to

16   remember exactly back to that.

17   COMMISSIONER LeBLANC: Thank you then. That's

18   good enough then.

19   Let's move on here. In your colloquy with Mr.

20   Richardson you talked about erratic and one of the things

21   that fascinated me was, throughout this thing is when you

22   developed your cost change factors they were based on

23   updated economic forecasts, as I would appreciate it. This

24   is kind of a summation -- and that included what was called,

25   one line item I saw on there was New Break-Through

FINANCE

UNITED STATES
POSTAL SERVICE

September 1, 2000

Mr. Edward J. Gleiman
Chairman
Postal Rate Commission
1333 H Street, N.W., Suite 3000
Washington, DC 20268-0001

Dear Chairman Gleiman:

The Postmaster General asked me to respond to your letter of August 9 concerning the Postal Service's response to Commission Order No. 1294 in Docket No. R2000-1. As you are no doubt aware, my recent rebuttal testimony at the Commission related to the matters raised in your letter.

In my written rebuttal testimony and my statements made at the hearing on August 31, I confirmed that the Postal Service has not changed its labor negotiating policy. The Postal Service continues to seek wage changes at least one percent below the Employment Cost Index (ECI).

My rebuttal testimony noted that the Postal Service's request reflected wage increase estimates for the new contracts amounting to ECI minus 2.1. Because of the effect of incorporating more recent inflation information, had we not changed the basis for our labor cost estimates, the Order No. 1294 update would have reflected an unrealistic assumption that the funding for new contracts would be greater than three percentage points below ECI. Our response to Order No. 1294 followed the Commission's directive that the Postal Service could incorporate "such other updates as it believes will more accurately reflect test year results."

I appreciated the opportunity to appear before the Commission and address these matters.

Sincerely,

Richard J. Strasser, Jr.
Acting Chief Financial Officer
Executive Vice President

cc: Mr. Henderson

475 L'ENFANT PLAZA SW
WASHINGTON DC 20260